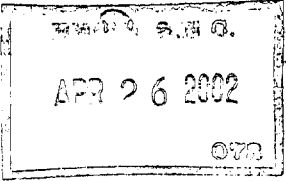
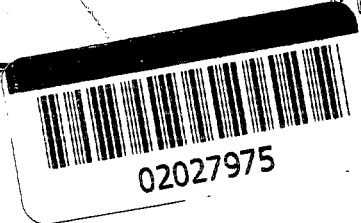
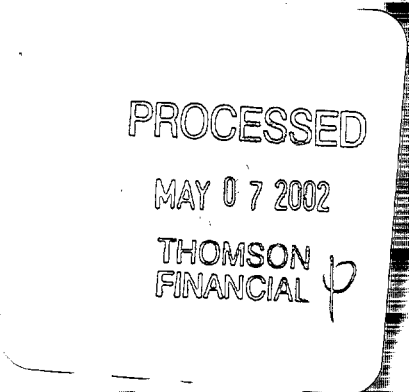


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Novellus Systems



Form



W. Long



The cover image is a close up of the Hollow Cathode Magnetron (HCM™) source from the Novolux (NOVA) system. The patented NOVA design delivers a superior film conformity during deposition processes.

Novellus Systems

2001 Annual Report to Shareholders

10k



UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K

(Mark One)

☒ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15 (d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2001

OR

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15 (d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission File Number 0-01757

NOVELLUS SYSTEMS, INC.

(Exact name of Registrant as specified in its charter)

California

77-0024666

(State or other jurisdiction of incorporation of organization)

(I.R.S. Employer Identification Number)

4000 North First Street, San Jose, California 95134

(Address of principal executive offices including Zip code)

(408) 943-9700

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act: None

Securities registered pursuant to Section 12(g) of the Act:

Common Stock, no par value
(Title of Class)

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15 (d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. YES ☒ NO ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☒

As of March 13, 2002 the aggregate market value of voting and non-voting stock held by non-affiliates of the Registrant was approximately \$7,223,152,119 based on the average of the high and low prices of the Common Stock as reported on the NASDAQ National Market on such date. Shares of Common Stock held by officers, directors and holders of more than 5% of the outstanding Common Stock have been excluded from this calculation because such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

The number of shares of the Registrant's Common Stock outstanding on March 13, 2002 was 144,970,131.

Documents Incorporated by Reference: Part III of this Report on Form 10-K incorporates information by reference from the Registrant's Proxy Statement for its 2002 Annual Meeting of Shareholders.

NOVELLUS SYSTEMS, INC
2001 ANNUAL REPORT ON FORM 10-K

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CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K and certain information incorporated herein by reference contain forward-looking statements within the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. All statements included or incorporated by reference in this Annual Report, other than statements that are purely historical are forward-looking statements. Words such as "anticipates", "expects", "intends", "plans", "believes", "seeks", "estimates", and similar expressions also identify forward-looking statements. These forward-looking statements, which include statements about the growth of the semiconductor industry; increasing costs in the semiconductor industry; market size, share and demand; product performance; Novellus' expectations, objectives, anticipations, intentions and strategies regarding the future, expected operating results, revenues and earnings and current and potential litigation are not guarantees of future performance and are subject to risks and uncertainties that could cause actual results to differ materially from the results contemplated by the forward-looking statements. Forward-looking statements in this Annual Report on Form 10-K include, without limitation:

- the discussion of Novellus' strategy to focus on major semiconductor manufacturers, under the heading "Item 1. Business" which is subject to the risk, among other risks, that the semiconductor industry will continue to experience this or another periodic downturn, which could have a material adverse effect on the semiconductor industry's demand for semiconductor processing equipment, including equipment manufactured and marketed by Novellus;
- the statements regarding (1) Novellus' belief that PVD, tantalum barrier and copper seed layers may play an important role in replacing aluminum with copper as the primary wiring material, (2) Novellus' belief that electroplating process technology will be extendible to at least the 0.10 micron design rule; or, in other words, approximately another 3 or 4 years given the current industry evolution; (3) Novellus' belief that there will be a widespread transition from aluminum to copper conductive lines for faster processing speeds, and (4) Novellus' belief regarding the increasing focus of the semiconductor industry on obtaining increased productivity, higher returns and reduced costs, under the heading "Item 1, Business - Industry Background," which are subject to various uncertainties, including, without limitation, shifts in demand from expensive, high-performance products to lower price products resulting in reduced profit for semiconductor manufacturers, periodic downturns in the semiconductor industry and slowdowns in the rate of capital investment by semiconductor manufacturers;
- Novellus' belief in the growing importance of the surface preparation step in the manufacturing of advanced semiconductor devices and its belief that the acquisition of GaSonic's surface preparation technology will lead to improved integration of the cleaning and deposition processes when building advanced devices, particularly those manufactured with a copper dual damascene process, under the heading "Item 1, Business - Industry Background" which is subject to the risk, among other risks, of the failure of Novellus' expectations regarding the future direction of the semiconductor industry in moving to copper and low-k dielectrics and the failure to combine GaSonic's product offerings and technologies with Novellus' offerings;
- Novellus' beliefs regarding Throughput, Cost per Wafer and Film Quality, Novellus' belief that within-wafer and wafer-to-wafer uniformity levels of +/- 1% of film thickness as measured at one standard deviation are state-of-the-art for the industry, under the heading "Item 1, Business - The Novellus Solution," which are subject to various uncertainties, including, without limitation, shifts in demand from expensive, high-performance products to lower price products resulting in reduced profit for semiconductor manufacturers, slowdowns in the rate of capital investment by semiconductor manufacturers and future product developments and introductions by competitors;
- the discussion of Novellus' strategies under the heading "Item 1, Business - Strategy," including statements regarding (1) Novellus' objective to increase its market share in the worldwide interconnect market and to strengthen its position as a leading supplier of semiconductor processing equipment; (2) Novellus' intent to retain its focus on productivity by leveraging its multi-chamber and continuous processing architecture in product enhancements and new product offerings; (3) Novellus' strategy to provide a family of systems which utilize advanced CVD, PVD, Electrofilling, and dry strip/clean technologies to address leading-edge wafer processing needs, (4) Novellus focusing its research and development efforts on advanced PVD and Electrofilling technology, "gap fill" high-density plasma (HDP) technology, low-k dielectric materials, advanced surface preparation, and additional advanced technologies for the next generation of smaller geometry fabrication lines, (5) Novellus' sales objective to work closely with customers to secure purchase orders for multiple systems and to seek to build customer loyalty and achieve a high level of repeat business by offering high reliability products, comprehensive field support and a responsive parts replacement and service program, and (6) Novellus' belief that its outsourcing strategy enables it to minimize its fixed costs and capital expenditures while also providing the flexibility to increase capacity as needed and allows Novellus to focus on product differentiation through system design and quality control, which is subject to various uncertainties, including, without limitation, shifts in demand from expensive, high-performance products to lower priced products resulting in reduced profit for semiconductor manufacturers, the current and other periodic downturns in the semiconductor industry, slowdowns in the

rate of capital investment by semiconductor manufacturers and future product developments, introductions by competitors and increased competition in the semiconductor equipment industry and risks associated with international operations, including economic downturns and trade balance issues;

- Novellus' belief that substantial additional growth potential exists in the Asian region over the long term and that mainland China is poised to become the next major manufacturing region for the industry, and that Novellus' intent to continue to aggressively build its presence in Asia as an important part of its current business strategy under the heading "Item 1, Business - Strategy," which is subject to numerous risks, including, without limitation, periodic economic downturns, trade balance issues, political instability and fluctuations in interest, foreign currency exchange rates, banking issues and other difficulties contributing to slower economic developments in these countries;
- Novellus' statements and beliefs regarding its products, including (1) Novellus' belief that its Concept One-W product is currently the only system that provides full coverage tungsten deposition on a wafer's surface under the heading "Item 1, Business - Strategy;" (2) Novellus' belief that the 10-second heating period in advance of deposition in the Concept One - dielectric is one of the shortest preheat times of any CVD system, under the heading "Item 1, Business - Products - Concept One - dielectric"; (3) Novellus' belief that the Dual ALTUS is the solution in the industry for very high volume 200mm wafer fabs producing 0.18 and below micron semiconductor devices, under the heading "Item 1, Business - Products - Concept Two;" (4) Novellus' belief that its ARL product offers competitive throughput and low cost of ownership for the industry, under the heading "Item 1, Business - Products - Anti Reflection Layer;" (5) Novellus' belief that the Concept Three family of systems should offer minimal risks to its customers in making the transition from 200mm to 300mm volume chipmaking, under the heading "Item 1, Business - Products - Concept Three;" (6) Novellus' belief that HCM technology offers better target utilization, extended maintenance intervals, and lower cost of ownership in comparison with collimated and other ionized sputtering techniques, under the heading "Item 1, Business - Products - Inova System;" and (7) Novellus' belief that the SABRE system is the most reliable and technologically advanced Electrofilling system available on the market, under the heading "Item 1, Business - Products - SABRE," which are subject to various uncertainties and risks, among others, including the greater financial, marketing, technical or other resources, broader product lines, greater customer service capabilities and larger and more established sales organizations and customer bases that some of Novellus' competitors possess, future competition from new market entrants from overseas and domestic sources, Novellus' competitors' improvement of the design and performance of their products that may offer superior price or performance features over Novellus' products, Novellus' success in selecting, developing, manufacturing and marketing its new products or enhancing its existing products;
- Novellus' beliefs and expectations that (1) its strategy of supporting its installed base through customer support and R&D groups, (2) its marketing efforts are enhanced by the technical expertise of its research and development personnel, (3) its service to its customers is enhanced by the design simplicity of its systems, and (4) sales of its products to relatively few customers will continue to account for a high percentage of its net sales in the foreseeable future and belief that sales to certain customers will decrease in the future (also found in "Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations - Trends Risks and Uncertainties - A Large Portion of Novellus' Net Sales is Derived From Sales to a Few Customers" and is also subject to the risks and uncertainties set forth in such item); under the heading "Item 1, Business - Marketing, Sales and Service;" are subject to risks, among others, that during periods of reduced and declining demand, Novellus may not be able to quickly and effectively align its cost structure with prevailing market conditions and motivate and retain key employees or that during periods of rapid growth, Novellus may not be able to acquire and/or develop sufficient manufacturing capacity to meet customer demand and hire and assimilate a sufficient number of qualified people;
- Novellus' statement that Novellus' ability to remain competitive in this market will depend in part upon its ability to develop new and enhanced systems and to introduce these systems at competitive prices and on a timely and cost-effective basis and Novellus' expectation that research and development expenditures will continue to represent a substantial percentage of sales, under the heading "Item 1, Business - Research and Development;" are subject to certain risks, among others, that Novellus may experience delays from time to time in the introduction of, and certain technical and manufacturing difficulties with, certain of its systems and enhancements and may experience delays and technical and manufacturing difficulties in future introductions or volume production of new systems or enhancements or that Novellus may incur substantial unanticipated costs to ensure the functionality and reliability of its future product introductions early in the product's life cycle;
- Novellus' belief that its outsourcing strategy enables it to minimize its fixed costs and capital expenditures while also providing the flexibility to increase capacity as needed and allows Novellus to focus on product differentiation through system design and quality control, its belief that the use of manufacturing specialists for its subsystems incorporate advanced technologies in robotics, gas panels and microcomputers and the statement that Novellus seeks to reduce its dependence on limited suppliers for certain key parts, under the heading "Item 1, Business - Manufacturing;" are subject to various uncertainties, including, without limitation, the possible occurrence of a disruption or termination of certain of

these sources which could have at least a temporary adverse effect on Novellus' operations and a prolonged inability to obtain certain components could have a material adverse effect on Novellus' business, financial condition and results of operations and could result in damage to customer relationships;

- Novellus' belief as to its favorable competitiveness in the deposition equipment marketplace and Novellus' belief that the acquisition of TFS and its 1998 announcement of a copper primary conductor product will allow Novellus to develop and compete successfully in the PVD and copper Electrofill areas of the market and that manufacturers will be generally reliant upon specific equipment, under the heading "Item 1, Business - Competition" is subject to various risks, among others, including the greater financial, marketing, technical or other resources, broader product lines, greater customer service capabilities and larger and more established sales organizations and customer bases that some of Novellus' competitors possess, future competition from new market entrants from overseas and domestic sources, Novellus' competitors' improvement of the design and performance of their products that may offer superior price or performance features over Novellus' products, Novellus' success in selecting, developing, manufacturing and marketing its new products, or enhancing its existing products;
- the statement that Novellus intends to continue to pursue the legal protection of its technology primarily through patent and trade secret protection and the statement that in the future, litigation may be necessary to enforce patents issued to Novellus, to protect trade secrets or know-how owned by Novellus or to defend Novellus against claimed infringement of the rights of others and to determine the scope and validity of the proprietary rights of others under the heading "Item 1, Business - Patents and Proprietary Rights" is subject to uncertainty, including that there is no assurance that patents will be issued from any of Novellus pending applications or that any claims allowed from existing or pending patents will be sufficiently broad to protect Novellus' technology and that any such litigation could result in substantial cost and diversion of effort by Novellus and any adverse determinations in such litigation could result in Novellus' loss of proprietary rights, subject Novellus to significant liabilities to third parties, require Novellus to seek licenses from third parties or prevent Novellus from manufacturing or selling its products;
- the statements that the success of Novellus' future operations depends in large part on Novellus' ability to recruit and retain engineers and technicians, marketing, sales, service and other key personnel and that Novellus' success depends to a significant extent upon a limited number of key employees and other members of senior management of Novellus under the heading "Item 1, Business - Employees" are subject to risks and uncertainties, among others, that there can be no assurance that Novellus will be successful in retaining or recruiting key personnel and Novellus' possible inability to effectively manage growth, or to attract and retain the personnel it requires;
- Novellus' anticipations regarding the construction on the Tualatin, Oregon site and its completion in the second quarter of 2002 and Novellus' belief that its current properties will be sufficient to meet Novellus' requirements for the foreseeable future, under the heading "Item 2, Properties" are subject to risk and uncertainty, including unanticipated delays in construction schedules and a greater growth in Novellus' net sales placing unexpected strains on Company resources and properties;
- Novellus' belief that there are meritorious defenses in the Applied, Semitool and Plasma Physics litigation matters, and Novellus' beliefs regarding the impact on the Company of such litigation and with respect to the outcomes of the Applied Materials, Semitool and Plasma Physics litigation matters and current patent infringement inquiries, under the headings "Item 3, Legal Proceedings" and "Item 8. Financial Statements and Supplementary Data - Notes to Consolidated Financial Statements - Note 5, Litigation" are subject to risk and uncertainty regarding the outcome of such litigation matters as the resolution of intellectual property litigation is very fact intensive and Novellus cannot assure that it will be successful in the resolution of these claims;
- Novellus' statements regarding calculation of allowances, reserves, and other estimates that are based on historical experience, the judgment of management, and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources and Novellus' beliefs about critical accounting policies, and its more significant judgments and estimates used in the preparation of its consolidated financial statements in "Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations - Results of Operations," are subject to risk among others, that actual product failure rates, material usage, installation costs, customer reserves or other estimates may be different from Novellus' estimates, requiring revisions to the Company's estimated doubtful account allowances, additional inventory write-downs, restructuring charges, litigation, warranty, and other reserves;
- Novellus' strategies, beliefs, plans, expectations, anticipations and hopes with respect to Net Sales, Gross Profit, Selling, General and Administrative, Research and Development, Restructuring and Other Charges, Bad Debt Write-off, In-process Research and Development, Other Income, Provision for Income Taxes, Net Income, Foreign Currency Accounting and Foreign Exchange Contracts set forth under "Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations - Results of Operations," including, without limitation, (1) the statement that the decrease in SG&A expenses as a percentage of net sales across periods reflects Novellus' ongoing efforts to

control and reduce SG&A expenses despite the rapid growth in revenues; (2) the statement that the increases in R&D expenses reflect Novellus' continued commitment to the development of new products and advanced technologies for the next generation of smaller geometry fabrication lines, and equipment to process 300mm wafers; (3) the statement that Novellus plans to continue to invest in new products and increase research and development spending in absolute dollars; (4) the statement that Novellus continues to believe that significant investment in R&D is required to remain competitive, although such expenses as a percentage of net revenues may fluctuate between periods; (5) Novellus' expectations regarding the cost savings to be achieved through its restructuring plan; (6) its beliefs regarding the realization of deferred tax assets; (7) the belief that Novellus' forward foreign exchange contracts do not subject Novellus to speculative risk that would otherwise result from changes in currency exchange rates; (8) the Company's belief regarding its participation in its synthetic leases in 2002 and the expected cash outlay of \$90.0 million; and (9) beliefs regarding the impact of the adoption of SFAS No. 141, 142, 143, and 144, the future treatment of synthetic leases for accounting purposes, and the impact on the Company of the Euro conversion; and Novellus' strategies, beliefs, plans, expectations, anticipations and hopes with respect to Liquidity and Capital Resources set forth under "Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations - Liquidity and Capital Resources," including, without limitation, (1) Novellus' belief regarding its exposure due to the residual value guarantee under synthetic leases; (2) its beliefs regarding the impact to liquidity if the Company must purchase the property subject to the synthetic leases; (3) the Company's intention to refinance and continue to defease its existing synthetic leases at the end of the lease terms; (4) Novellus' intent to use net proceeds from its Liquid Yield OptionTM Notes ("LYONs") offering for general corporate purposes; (5) the belief that Novellus' current cash position, cash generated through operations and equity offerings, and available borrowings will be sufficient to meet Novellus' needs through at least the next twelve months; and (6) Novellus' expectations with respect to the return from investments in property and equipment and the sufficiency of funds from operations, existing cash balances and borrowing capacity, are subject to numerous risks and uncertainties, including, without limitation, that the semiconductor industry will continue to experience this or another periodic downturn, which could have a material adverse effect on the semiconductor industry's demand for semiconductor processing equipment, including equipment manufactured and marketed by Novellus, the greater financial, marketing, technical or other resources, broader product lines, greater customer service capabilities and larger and more established sales organizations and customer bases that some of Novellus' competitors possess, future competition from new market entrants from overseas and domestic sources, Novellus' competitors' improvement of the design and performance of their products that may offer superior price or performance features over Novellus' products, Novellus' success in selecting, developing, manufacturing and marketing its new products, or enhancing its existing products;

- Novellus' anticipation that export sales will account for a significant portion of net sales for the foreseeable future set forth under "Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations – Trends Risks And Uncertainties – International Operations" is subject to the risks and uncertainties set forth in such Item;
- Novellus' expectation that it will continue to experience significant fluctuations in its quarterly operating results set forth under "Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations – Trends Risks And Uncertainties – Variability of Quarter Operating Results" is subject to the risks and uncertainties set forth in such Item; and
- Novellus' expectation that it may incur charges to operations, which are not currently reasonably estimable, in connection with the acquisition of GaSronics in the first quarter of 2001 (the quarter in which the merger was completed) or following quarters, to reflect costs associated with integrating the two companies set forth under "Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations – Trends Risks and Uncertainties – Benefits of Novellus' Acquisition of GaSronics May Not Be Realized" is subject to the risks and uncertainties set forth in such Item.

The above forward-looking statements and any expectations based on such forward-looking statements are subject to risks and uncertainties and other important factors. Any of Novellus' actual results could differ materially from those included in such forward-looking statements. In addition to the risks and uncertainties mentioned above, the above forward-looking statements are also subject to additional risks and uncertainties further discussed under "Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations – Trends Risks and Uncertainties".

Because such statements are subject to risks and uncertainties, actual results may differ materially from those expressed or implied by such statements. All forward-looking statements included in this document are based on information available to Novellus on the date hereof, and Novellus assumes no obligation to update any such forward-looking statements. Shareholders are cautioned not to place undue reliance on such statements, which speak only as of the date of this Annual Report. The reader should also consult the cautionary statements and risk factors listed from time to time in Novellus' Reports on Forms 10-Q, 8-K, 10-K and its Annual Reports to Shareholders.

PART I

ITEM 1. BUSINESS

Novellus Systems, Inc. ("Novellus" or the "Company") manufactures, markets, and services semiconductor processing equipment. The Company's products are primarily comprised of advanced systems used to deposit thin conductive and insulating films on semiconductor devices, as well as equipment for preparing the device surface prior to these deposition processes. Novellus is a leading supplier of high productivity deposition and surface preparation systems used in the fabrication of integrated circuits. Chemical Vapor Deposition (CVD) systems employ a chemical plasma to deposit all of the dielectric (insulating) layers and certain of the metal (conductive) layers on the surface of a semiconductor wafer. Physical Vapor Deposition (PVD) systems are used to deposit conductive metal layers by sputtering metallic atoms from the surface of a target source via high DC power. ElectrofillTM systems are used for depositing copper conductive layers in a dual damascene design architecture using an aqueous solution. On January 10, 2001, Novellus acquired GaSonics International Corporation ("GaSonics"), a leading developer and global supplier of photoresist and residue removal solutions used in advanced semiconductor device manufacturing. The photoresist and residue removal systems are used to clean and prepare the device surface after the manufacturing steps that precede the deposition process. Novellus' growth strategy focuses on major semiconductor manufacturers and Novellus has sold one or more of its systems to each of the 20 largest semiconductor manufacturers in the world.

Novellus was incorporated in California in April 1984 and is headquartered in San Jose, California. The mailing address for Novellus' headquarters is 4000 North First Street, San Jose, California 95134, and the Company's telephone number is (408) 943-9700. Additional information about the Company is available on Novellus' website at www.novellus.com.

Industry Background

The semiconductor industry has experienced significant growth over the past decade due to increased demand for personal computers and the growth of the Internet; the expansion of the telecommunications industry (especially wireless communications); and the emergence of new applications in consumer electronics. In addition, significant performance advantages and lower prices for integrated circuits have contributed to the growth and expansion of the industry.

The late 1990s also saw the emergence of a new growth trend driven by the increasingly rapid pace in which the size of the circuitry on chips is decreasing. When chips decrease in size, circuits can operate more quickly. In addition, with size reduction, more chips can be produced on a given wafer size and the yield per manufacturing machine increases. Because more chips can be produced per machine with smaller chips, there is less need to build new manufacturing plants, in particular, for pure capacity expansion. However, new equipment featuring the latest technological advances often must still be purchased to manufacture these smaller-sized chips and, in many cases, is retrofitted into existing manufacturing facilities.

Although the semiconductor industry has experienced significant growth, the semiconductor market is cyclical by nature, characterized by short-term periods of either under or over supply for both memory and logic devices. When demand decreases, semiconductor manufacturers typically slow their purchasing of capital equipment; conversely, when demand increases, so does the manufacturers' capital spending.

The fabrication of integrated circuits requires a number of complex and repetitive processing steps including deposition, photolithography, and etch. Deposition is a process in which a film of either electrically insulating (dielectric) or electrically conductive material is deposited on the surface of a wafer. There are three principal methods for depositing this film: CVD (chemical vapor deposition), which can be used to deposit both dielectric and conductive films; PVD (physical vapor deposition), which is used primarily for sputtering conductive metals onto the wafer surface; and electroplating, a process for depositing conductive films via an electrically charged aqueous solution.

In the CVD process, wafers are typically placed in a reaction chamber; a variety of pure and precisely metered gases are introduced; and some form of energy is added to activate a chemical reaction. The result of this reaction is the deposition of a film on the wafer. The CVD process is the traditional method used to deposit dielectric films in an integrated circuit, including the initial interlayer, portions of the interconnect layers, and the final passivation layer. CVD is also used for deposition of conductive metal layers, particularly those metals that are more difficult to deposit in smaller line width geometry devices through conventional PVD or other deposition technologies. CVD technology is particularly effective for depositing blanket tungsten as a "plug" layer that connects one conductive metal layer to another in a multi-level integrated

circuit. For such applications, tungsten replaces aluminum, which has certain physical properties that reduce its efficacy for the smaller interconnect holes of devices with smaller line width geometries.

PVD, also known as "sputtering", is a process where ions of an inert gas, typically argon, are electrically accelerated in a high vacuum toward a target of pure metal, such as aluminum, tantalum, or copper. Upon impact, the argon ions "sputter" off bits of the target material, which then deposits on the silicon wafer to form the thin conductive films which "wire" the thousands of transistors in the computer chip together.

PVD processes are used to create conducting liner and barrier metal layers to prevent diffusion or reactions between metals such as tungsten and the surrounding silicon regions, and to provide an underlying foundation for the nucleation of other metal deposition layers. Aluminum PVD is also widely used at the present time as the primary wiring material in up to six layers of device interconnect. Novellus believes, however, that PVD tantalum barrier and copper seed layers will play an important role in enabling the transition from aluminum to copper as the primary wiring material.

As the industry transitions to smaller and smaller line widths, a fundamental change is occurring with the movement from aluminum to copper wires as the primary conductors. Copper has a lower resistance value than aluminum, the present conductive metal used in integrated circuits. Because of this fact, copper has the potential to double the speed of an advanced microprocessor while reducing the number of metal layers required by as much as 50%.

The historic electroplating process has been modified by the semiconductor manufacturing industry to deposit copper conductive lines in extremely small features on integrated circuits. The electroplating method allows metal to be filled in a structure created within the circuit's insulating layers in a process called dual damascene (or alternatively, dual inlaid). This is the reverse of the process used with aluminum, where the metal is deposited first, etched to create lines and vias, and then filled with insulating layers between the metal lines. The most difficult task is filling copper into interconnect structures, which can be less than 0.18 micron in width, with aspect ratios of up to 5:1. Electroplating employs a liquid chemistry and electrolytic principles to deposit the copper wiring into the dielectric structure, a simple and cost-effective process that is also highly reliable.

Electroplating processes are used to produce the primary copper conductive layers in advanced integrated circuits (typically circuits with line widths smaller than 0.25 micron). The technology is believed by Novellus to be extendible until at least the 0.10 micron design rule; or in other words, approximately another 3 or 4 years given the current industry evolution.

Advanced integrated circuit technology has created increased demand for more sophisticated semiconductor processing equipment. Today's advanced semiconductor devices are being designed with line width geometries as small as 0.13 microns, with up to six layers of interconnect circuitry. The next generation of semiconductor devices will see line widths as small as 0.10 micron. As the industry transitions from 0.13 micron to 0.10 micron, Novellus believes that there will be widespread transition from aluminum to copper conductive lines for faster processing speeds.

Novellus' acquisition of GaSonics, completed in January of 2001, illustrates Novellus' belief in the growing importance of the surface preparation step in the manufacturing of advanced semiconductor devices. Properly preparing the device surface is essential prior to the deposition process to ensure the proper adhesion of the film layer, and to prevent device-killing defects. The industry movement to new materials such as copper and low-k, as well as shrinking line widths and smaller wafer sizes, is driving the need for more advanced cleaning technologies that do not damage the device. Novellus believes that its acquisition of the GaSonics surface preparation technology will lead to improved integration of the cleaning and deposition processes when building advanced devices, particularly those manufactured with a copper dual damascene process.

Semiconductor manufacturers generally measure the cost performance of their production equipment in terms of "cost per wafer," which is determined by factoring in the fixed costs for acquisition and installation of the system; the system's variable operating costs, and its net throughput rate. A system with higher throughput allows the semiconductor manufacturer to recover the purchase price of the system over a greater number of wafers, thereby reducing the cost of ownership of the system on a per wafer basis. Throughput is most accurately measured on a net or overall basis, which takes into account the processing speed of the system and any non-operational downtime for cleaning, maintenance, or other repairs. Yield and film qualities are also significant factors to the semiconductor manufacturer in selecting processing equipment. The increased costs of larger and more complex semiconductor wafers have made high yields extremely important to semiconductor manufacturers. To achieve higher yields and better film quality, deposition systems must be capable of repeating the original process on a consistent basis without a disqualifying level of defects. This characteristic, known in the industry as

"repeatability", is extremely important in achieving commercially acceptable yields. Repeatability is more easily achieved in those systems that can operate at desired throughput rates without requiring the system to approach its critical tolerance limits.

The continuing evolution of semiconductor devices to smaller line width geometries and more complex multi-level circuitry has significantly increased the cost and performance requirements of the capital equipment used to manufacture these devices. An advanced 300mm wafer fabrication line can cost close to \$2 billion, representing a substantial increase over the costs of prior generation facilities. Increased capital depreciation costs will become a larger percentage of the aggregate production costs for semiconductor manufacturers relative to labor, materials, and other variable manufacturing costs. As a result, there has been an increasing focus by the semiconductor industry on obtaining greater productivity and higher returns from its semiconductor manufacturing equipment, thereby reducing the effective cost of ownership of such systems.

The Novellus Solution

Novellus focuses on advanced thin film deposition systems and surface preparation equipment -- CVD, PVD, Electrofill (electroplating), photoresist strip, and residue removal systems -- that provide high film quality while attaining the high levels of productivity required to meet the semiconductor industry's need for high volume, low cost wafer production. Novellus' multi-station sequential processing architecture of its plasma enhanced CVD (PECVD), CVD tungsten, and photoresist strip products enables these systems to address each of the following critical parameters of system performance:

CVD Solutions

Throughput, Cost per Wafer. In contrast to CVD systems that process only one wafer at a time in a chamber, Novellus' multi-station sequential deposition systems can process between four and seven wafers (depending on the system) at the same time in a chamber, which leads to higher throughput levels. The design simplicity and automatic cleaning capabilities of Novellus' systems further increase net throughput by reducing production downtime.

Film Quality. With Novellus' unique sequential system design, each wafer receives a fraction of the desired film thickness at each of the deposition stations in the process chamber. The "averaging" effect created by this design tends to reduce anomalies in film thickness and thereby improves film uniformity and quality. Novellus' systems can obtain within-wafer and wafer-to-wafer uniformity levels of +/- 1% of film thickness, for most films, as measured at one standard deviation, which the Company believes is state-of-the-art for the industry.

Process Repeatability. Because of the inherently higher throughput potential of continuous processing, Novellus' systems are able to deposit materials at lower, more controlled rates than single wafer processing systems, which generally deposit at faster rates closer to the process performance limits in order to achieve production-level throughputs. Lower deposition rates avoid straining the system's process tolerance limits and thereby permit increased process control and repeatability.

PVD Solutions. Through the acquisition of Varian's Thin Film Systems division in 1997, Novellus extended its deposition capabilities into PVD, introducing the INOVA[®] system in April of 1998. PVD, a critical technology in the production of advanced semiconductor logic and memory devices, enables Novellus to provide metal deposition solutions for both aluminum primary conductor and copper barrier/seed layers.

Copper Electroplating Solutions. Introduced in June 1998 after an extensive joint development program with IBM's Microelectronics Division, the SABRE[®] copper Electrofill tool is the industry's leading production system for depositing copper conductive layers on sub-0.25 micron circuits. SABRE employs a patented wafer fixture to avoid backside contamination of the wafer from the plating bath; a unique bath cell design that ensures reproducibility of the copper fill; and a simple system architecture that ensures both high wafer throughput and system availability. Coupled with the INOVA PVD system, Novellus' SABRE tool offers a complete copper solution for depositing advanced copper interconnects.

Photoresist Strip and Clean Solutions. Through the acquisition of GaSonics in January 2001, Novellus now offers a suite of advanced photoresist strip and clean products, including the PEP 3510^{Plus} and the GAMMA[™] 2100 for photoresist strip applications, and the PEP IRIDIA[™] for residue clean processes. All surface preparation products, now part of Novellus' Surface Integrity Group, employ advanced dry process technology that allows more efficient removal of complex residues without attacking or contaminating the underlying device material.

Strategy

Novellus' objective is to increase its market share in the worldwide interconnect market and strengthen its position as a leading supplier of semiconductor processing equipment. The key elements of Novellus' strategy are as follows:

Emphasis on High Productivity Systems. Novellus has historically focused on providing high productivity systems to leading semiconductor companies. Novellus addresses the needs of semiconductor manufacturers through its multi-chamber or unique continuous processing architectures, which enable its systems to attain high levels of wafer throughput, yield and film quality. The simple architecture of Novellus' systems also provides a long up-time and smaller footprint. Novellus intends to retain its focus on productivity by leveraging its multi-chamber and continuous processing architecture in product enhancements and new product offerings.

Leadership in dielectric deposition, metals deposition, and surface preparation technologies. Novellus' strategy is to provide a family of systems that use advanced CVD, PVD, Electrofilling, and dry strip/clean technologies to address leading-edge wafer processing needs. Novellus' Concept One[®] dielectric system offers dual frequency deposition technology to achieve results for a wide variety of films on wafers as large as eight inches and geometries as small as 0.35 micron. Novellus' Concept One-W is used by manufacturers to connect multiple metal layers in advanced devices, and the Company believes that it is currently the only system that provides full coverage tungsten deposition on a wafer's surface. Novellus' Concept Two[®] system is a modular CVD system designed to address the needs of wafer fabs that demand greater levels of wafer processing integration, higher volume production and increased factory automation. The Concept Three[™] system is also a modular CVD system, but designed to process 300mm wafers; its architecture is similar to that of the Concept Two, but uses a single wafer loadlock. Novellus is focusing its research and development efforts on advanced PVD and Electrofilling technology, "gap fill" high-density plasma (HDP) technology, low-k dielectric materials, advanced surface preparation, and additional advanced technologies for the next generation of smaller geometry fabrication lines. Novellus' first offering in the advanced HDP technology market, SPEED[®] was introduced in February 1996. The INOVA system provides an advanced PVD system that can deliver tantalum barriers and copper seed layers for copper metallization, as well as high quality Ti/Ti-nitride films with excellent particle performance. The SABRE Electrofill tool has emerged as the industry's leading choice for the fill of copper vias and trenches using a dual damascene process. The PEP IRIDIA, a dual-purpose strip/clean system, is a plasma-based system for advanced, sub-0.25 micron device production, including copper dual damascene and low-k dielectric films. Finally, the GAMMA 2100 system is a high throughput, low cost of ownership photoresist strip system employing a multi-station sequential processing architecture for simplicity, reliability, and high productivity.

Focus On Major Semiconductor Manufacturers. Novellus has sold one or more of its systems to each of the 20 largest semiconductor manufacturers in the world. Novellus' sales objective is to work closely with customers to secure purchase orders for multiple systems as these customers expand existing facilities, retrofit old facilities with new equipment, or build new fabs. Novellus seeks to build customer loyalty and achieve a high level of repeat business by offering high reliability products, comprehensive field support and a responsive parts replacement and service program.

Expansion of Asian Market Presence. While Novellus derives a significant percentage of its net sales from the Asian marketplace, the Company believes that substantial additional growth potential exists in the region over the long term. Countries such as Japan, Taiwan, and Korea continue to represent a disproportionate share of the world's capacity for semiconductor manufacturing, and mainland China is poised to become the next major manufacturing region for the industry. The Asian countries are particularly dominant in the manufacturing of memory products, which are enabling technologies for end use consumer applications such as the Internet and telecommunications. Currently, Novellus' local presence in Asia includes sales and support offices throughout Japan, which are operated by Novellus' wholly owned subsidiary, Novellus Systems, Japan. In addition, the Company has three offices in Korea, two offices each in Taiwan, China, and Malaysia, and one office each in Singapore and India. Novellus' current business strategy is to continue to aggressively build its presence in Asia to serve this strategically significant region.

Low Manufacturing Cost Structure. Novellus utilizes an outsourcing strategy for the manufacture of major subassemblies and performs system design, assembly, and testing in-house. Novellus believes that outsourcing enables it to minimize its fixed costs and capital expenditures while providing the flexibility to increase capacity as needed. This strategy also allows Novellus to focus on product differentiation through system design and quality control. Through the use of third party manufacturing specialists, the Company ensures that its subsystems incorporate advanced technologies in robotics, gas panels, and microcomputers. Novellus works closely with its suppliers to achieve mutual cost reduction through joint design projects.

Deposition Products

Since the introduction of its original Concept One dielectric system in 1987, Novellus has offered a family of processing systems for the dielectric and metal deposition markets. The Concept One dielectric deposits a variety of dielectric films on wafers, including Oxide, Nitride, and TEOS films. In 1990, Novellus introduced a modified version of the Concept One dielectric, the Concept One-W, which also uses a CVD process to deposit blanket tungsten metal films on wafers, primarily as the metal interconnect between conductor layers in the integrated circuit layers. In November 1991, Novellus introduced the Concept Two, a modular, integrated production system capable of depositing both dielectric and conductive metal layers by combining one or more processing chambers with a common, automated robotic wafer handler. In February 1996, Novellus introduced SPEED on the Concept Two platform, targeted at advanced inter-metal dielectric ("IMD") deposition. Following the acquisition of Varian's Thin Film Systems Division, Novellus announced the introduction of its INOVA system, an advanced PVD system that delivers Maxfill aluminum and Ti/Ti-nitride film quality for aluminum barrier layer applications, as well as highly conformal tantalum barrier copper seed layers (barrier/seed) for copper conductive layers. In June 1998, Novellus announced the SABRE copper Electrofill system for producing copper conductive layers. And most recently, in July 2000, Novellus introduced VECTOR™, a new 200mm/300mm PECVD platform with twice the capital productivity of competitive market offerings.

Concept One® dielectric

The Concept One dielectric system is shipped in two versions: the Concept One 150, which processes 100, 125, and 150mm wafers (approximately 4, 5, and 6 inches in diameter), and the Concept One 200, which processes 125, 150 and 200mm wafers (approximately 5, 6, and 8 inches in diameter, designed for eight-inch fabrication lines).

The Concept One consists principally of two attached chambers with associated hardware and electronics. The first chamber of the system, called the "loadlock", isolates the process chamber from the outside environment. Depending on the model of the Concept One dielectric, the loadlock accepts up to 75 wafers sized from 100 to 200mm, stored in cassette carriers. The operator inserts the cassettes of wafers in batches into the loadlock, and the pressure inside the loadlock is decreased to create a vacuum which matches the constant pressure level of the process chamber. A robotic arm in the center of the loadlock, the wafer transport mechanism, transfers wafers one at a time from the cassettes to the process chamber and, upon completion of the deposition process, returns the finished wafers to the cassettes. The loadlock isolates the process chamber from the fabrication environment, permitting the process chamber to remain at constant temperature and pressure while wafers are transferred from the clean room to the loadlock and from the loadlock to the process chamber. These stable process chamber conditions enhance film quality, process repeatability, and throughput. The loadlock design also reduces particulate contamination because the robotic arm is the only moving mechanism in the loadlock and because the wafer cassettes are isolated from the clean room.

The process chamber for the Concept One dielectric has six or eight stations, depending on the model. One station is used as a load/unload site and the remaining five, six, or seven stations are used for wafer deposition. Each deposition station employs a dedicated showerhead that delivers gases and plasma energy to the wafer surface. In a six-station process chamber, for example, each wafer moves through the system and stops at each of the five deposition stations to receive one-fifth of its preprogrammed film thickness. Some CVD products, called "single wafer" systems, process only one wafer at a time in a process chamber, while multistation continuous process systems, like the Concept One, can process numerous wafers at the same time. The continuous processing capabilities of a multistation system generally enable such systems to attain higher throughput while using a less critical, more repeatable process than would be required for a single wafer system at equivalent throughput levels. This multiple deposition design also results in greater film uniformity and improved film quality because small variations in deposition at any single station tend to be offset by deposition of the same film at other stations.

After the entire batch of up to 75 wafers has been processed and returned to the cassettes, an automatic cleaning cycle in the process chamber removes residual deposition materials which could otherwise cause particulate contamination in a subsequent deposition process. During this cleaning cycle, the loadlock automatically returns to atmospheric pressure, enabling the operator to remove the cassettes of finished wafers without impacting system throughput.

The Concept One dielectric uses electrical radio frequency (RF) plasma energy to enhance thermal energy, enabling the system to process wafers at a relatively low temperature, and thus reducing the risk of heat damage to existing metal layers during processing. The system also suppresses hillock formation by limiting the time that the wafer is exposed to elevated temperatures prior to deposition. The wafer is heated for 10 seconds or less in advance of deposition in the Concept One

system, which Novellus believes is one of the shortest preheat times of any CVD system. Stress related defects are addressed through the system by addition of a proprietary dual frequency, "stress control" option that Novellus offers. The system's vacuum loadlock reduces the level of particles, thereby improving film quality by isolating the process chamber of the Concept One dielectric from temperature and pressure fluctuations. In addition, the automatic cleaning capability and relatively simple mechanical design of the system reduce particulate contaminants and thereby increase yields and film quality.

Concept One-W

The Concept One-W was introduced in 1990 to address the tungsten CVD market. The Concept One-W deposits blanket tungsten metal films, used in semiconductor devices to connect multiple metal layers in the integrated circuit. Like the Concept One dielectric, the Concept One-W uses a multistation sequential deposition design that achieves high throughput with desirable film properties for the entire range of film thickness. The Concept One-W also uses an approach patented by Novellus, the Minimum Overlap Exclusion Ring (MOER), to provide full-coverage front-side tungsten deposition while preventing deposition of tungsten on the backside of the wafer. This MOER capability helps prevent the generation of damaging particles on the wafer and eliminates the need for time-consuming etching on the backside of the wafer to remove the film.

Concept Two®

The Concept Two, introduced in November 1991, is a modular, integrated production system capable of depositing both dielectric and conductive metal layers by combining one or more processing chambers around a common, robotic wafer handler. The Concept Two enables the semiconductor manufacturer to increase production throughput and system capability as needed without replacing equipment, simply by adding process modules through the Concept Two's modular configuration. The Concept Two was initially available with a tungsten process chamber and a PVD process module for deposition of certain metal layers. In late 1994, a dielectric process module became available for Concept Two systems.

The Concept Two in a typical configuration incorporates a central cassette module and wafer handler that interfaces with the clean room, and includes multiple interfaces for process or transport modules. The cassette module, through its robotics, manages wafer movement between the various processing stations that can be included in a particular Concept Two configuration. Different cassette modules are available, depending on customer requirements. An optional isolation chamber is also available that is connected to the cassette module to connect high vacuum process chambers and other portions of the system.

In 1993, Novellus introduced the Concept Two ALTUS®, which combines the modular architecture of the Concept Two system with an advanced tungsten CVD process chamber. The system features a dual loadlock cassette module with full factory automation capability to meet the high throughput requirements of high volume, automated eight-inch wafer fabs. This dual loadlock cassette handler permits continuous operation of the process chamber with one loadlock, while a second loadlock is simultaneously being loaded or unloaded by the operator in the clean room. Through its modular configuration, the Concept Two enables the semiconductor manufacturer to combine multistation modules for slower processes with single wafer modules for faster processes to balance the throughput of the overall system. A dielectric version of the Concept Two ALTUS, the Concept Two SEQUEL®, was introduced in late 1994. This system brought the same level of factory automation and throughput to the dielectric market as the ALTUS did to the metals market. The Concept Two SEQUEL was initially shipped in a single chamber version targeted at thin dielectric films used in volume 200mm inter-metal dielectric production applications.

In 1994, Novellus introduced the Concept Two Dual ALTUS tungsten deposition system. The Dual ALTUS features the production proven performance of Novellus' tungsten CVD chamber in a dual chamber configuration that delivers the throughput power to dramatically lower the cost of tungsten deposition. Novellus believes that the Dual ALTUS is a solution in the industry for very high volume 200mm wafer fabs producing semiconductor devices at 0.18 micron and below.

Subsequent to 1994, Novellus has continued to expand its Concept Two product offerings as follows:

Concept Two Dual SEQUEL®

This dual chamber version of the SEQUEL dielectric family is designed for high throughput deposition of thick films, such as layers before CMP (chemical mechanical polishing), and dual layer passivation films. The Dual SEQUEL employs two process chambers to provide the throughput power of twelve stations, resulting in dramatic improvements in productivity for these types of films.

Concept Two SEQUEL Express™

Introduced in June of 1999, SEQUEL Express is an advanced version of the SEQUEL system, designed to deposit Novellus' CORAL™ family of low-k dielectric films, as well as all other advanced films required for 0.18 micron and smaller devices. With a throughput in excess of 110 wafers per hour, SEQUEL Express delivers up to 40 percent higher capital productivity and up to 40 percent lower cost of ownership than competing CVD systems.

Concept Two SPEED®

Introduced in February 1996, SPEED was the semiconductor industry's first high-density plasma gapfill solution capable of high-volume manufacturing. SPEED is targeted for advanced IMD deposition for 0.18-micron devices and below. SPEED is offered either as a stand-alone gap fill system or integrated with the Concept Two SEQUEL to provide a complete high-throughput, low-cost gap fill and chemical mechanical polishing gap layer solution for logic manufacturing. SPEED is a single wafer processing system, and uses a patented hemispherical source design and a proprietary electrostatic chuck to provide excellent fill, reproducibility, low damage and high throughput.

Anti Reflection Layer

In December 1996, Novellus announced a new plasma enhanced anti-reflection layer film ("ARL"). The ARL product, PEARL®, achieves tighter levels of critical dimension control with in-line and Deep UV lithography in advanced semiconductor devices while reducing cost per wafer. The Company believes that PEARL, running on Novellus' PECVD systems such as SEQUEL and VECTOR, offers competitive throughput and low cost of ownership for the industry.

CORAL™ Low-K dielectric Films

Commensurate with the launch of SEQUEL Express in June of 1999, Novellus introduced the CORAL family of low dielectric constant (low-k) films, designed for the manufacture of advanced devices down to sub-0.1 micron geometries, and in particular, copper dual damascene structures. CORAL films are carbon-doped oxide CVD films with dielectric constants from 3.0 k to less than 2.4 k. Matched with Novellus' thin films for copper barriers and etch stops, CORAL films yield an effective capacitance reduction of up to 40 percent.

Concept Three™

In December 1997, Novellus introduced its Concept Three family of chemical vapor deposition systems for dielectric and tungsten applications on 300mm wafers. The Concept Three products include the Concept Three SPEED, the Concept Three SEQUEL, and the Concept Three ALTUS. Because the Concept Three systems are based on the production proven Novellus Concept Two products, the Company believes that they offer minimal risk to its customers in making the transition from 200mm to 300mm volume chipmaking.

INOVA® System

Introduced in April 1998, the INOVA system is an advanced PVD system that delivers tantalum barrier and copper seed layers required prior to copper Electrofilling, as well as Maxfill aluminum and Ti/Ti-nitride films for aluminum liner/barrier applications. The INOVA, a multi-chamber single wafer processing system, incorporates Novellus' uniquely-designed Hollow Cathode Magnetron ("HCM™") technology, which the Company believes offers better target utilization, extended maintenance intervals, and lower cost of ownership in comparison with collimated and other ionized sputtering techniques. In

July 2000, Novellus introduced the INOVA xT, a 300mm version of INOVA with proven HCM extendibility to the 0.10-micron technology node, as well as an industry-leading throughput of 100 wafers per hour (wph).

SABRE®

The SABRE system was introduced in July 1998 after an extensive development program with IBM, and is believed by Novellus to be the most reliable and technologically advanced copper Electrofilling system available on the market. SABRE has been proven to provide effective fill to meet today's 0.10-micron technology node requirements. SABRE employs a proprietary Electrofilling cell that eliminates the backside wafer contamination of copper, and features a unique plating cell design that ensures reproducibility of the copper fill, with a film uniformity of <5%, 3 sigma within a wafer. SABRE requires only two types of process modules to complete the Electrofill process, one for Electrofilling (3 stations total) and the other for bevel etch/spin/rinse/dry (another 3 stations) within a compact footprint. The resulting simplicity of this design is key to the system's high reliability and manufacturing availability.

SABRE xT

The second generation SABRE xT (introduced in 1999) is a 200mm/300mm bridge tool, and has become the market-leading electroplating platform at both wafer sizes. Continuous improvement has led to the availability of new features on the xT that were not found on the original SABRE, including programmable electrical waveforms, advanced plating chemistries, integrated anneal, and closed-loop chemical monitoring with the SmartDose+™ predictive dosing system.

VECTOR™

Introduced in July of 2000, VECTOR is a new PECVD system for dielectric films that radically transforms the playing field in terms of capital productivity. A 200mm/300mm bridge tool, VECTOR is designed to deliver a fully integrated low-k dielectric structure at 0.10-micron and smaller design rules. VECTOR is designed for high reliability, with 40% fewer critical subassemblies than the nearest competitor. With approximately 2/3rds the footprint of the nearest competitor, and a throughput of 120 wafers per hour, VECTOR delivers twice the capital productivity of any other PECVD system currently on the market.

Surface Preparation Products

Through the acquisition of GaSonic in January 2001, Novellus' Surface Integrity Group provides a suite of high productivity/low cost of ownership systems for the photoresist strip and clean markets, an area of semiconductor manufacturing that is becoming increasingly important with the move to copper dual damascene manufacturing.

PEP 3510^{Plus}

The PEP 3510 Plus is a versatile downstream microwave photoresist removal system designed for the clean, damage-free removal of photoresist materials. One of the most dependable bulk strip systems on the market, the PEP 3510 routinely delivers 300 hours MTBF with 95% uptime. More than 300 PEP-based systems have been installed in fabs around the world.

GAMMA™ 2100

The GAMMA 2100 photoresist removal system uses an interlaced, inductively coupled plasma source (I2CP) to strip photoresist, resulting in a more uniform distribution of results with reduced use of consumables. The GAMMA architecture also features a multi-station sequential processing design with six strip stations, resulting in a wafer throughput of up to 175-wph with a minimal number of critical subsystems (one change, one remote dry pump, and one gasbox support all six stations).

PEP IRIDIA™

The PEP IRIDIA is an advanced cleaning system designed for sub-0.25-micron applications and enabling technologies such as copper dual damascene. The modular architecture of IRIDIA allows the system to be configurable for both front-end-of-line (FEOL) and back-end-of-line clean applications down to 0.10-micron device geometries. For low-k dielectric clean applications, the IRIDIA offers the highest capital and footprint productivity of any clean system currently on the market.

Marketing, Sales, and Service

Novellus markets its products worldwide to manufacturers of semiconductor devices. These include customers with captive fabrication lines, who produce semiconductors primarily for internal consumption, and merchant semiconductor manufacturers, who produce semiconductors primarily for sales to third party customers. In North America, Novellus sells its products primarily through a direct sales force. Novellus' domestic sales and support offices are located in Salem, New Hampshire; Orlando, Florida; Austin and Dallas, Texas; Phoenix, Arizona; Hopewell Junction, New York; Williston, Vermont; Bath, Pennsylvania; Manassas, Virginia; Vancouver, Washington; Boise, Idaho; Hillsboro, Oregon; Bloomington, Minnesota; and Hudson, Massachusetts. In Europe, Novellus' products are predominantly sold through a wholly owned subsidiary, Novellus Systems, Ltd., which has sales and support facilities in England and Scotland. Novellus also has sales and service support offices in the Netherlands, France, Germany, Ireland, Italy, Israel, and India. In East and Southeast Asia, Novellus sells its products through wholly owned subsidiaries in Japan, Korea, Taiwan, Singapore, Malaysia, and China. Novellus' Japanese subsidiary maintains its headquarters near Tokyo and has nine sales offices throughout Japan.

The ability to provide prompt and effective field support is critical to Novellus' sales efforts, due to the substantial operational and financial commitments made by customers that purchase a deposition or surface preparation system. Novellus believes that its strategy of supporting its installed base through both its customer support and research and development groups has served to encourage use of the Company's systems in production applications and has accelerated penetration of certain key accounts. Novellus also believes that its marketing efforts are enhanced by the technical expertise of its research and development personnel, who provide customer process support and participate in a number of industry forums, such as conferences and technical symposia.

Novellus believes that its ability to service its customers is enhanced by the design simplicity of its systems. The Company generally warrants its products against defects in design, materials, and workmanship. In 1992, Novellus became the first semiconductor equipment manufacturer to extend its warranty up to 24 months from shipment, and in 1993, included the cost of consumable parts on some systems and preventative maintenance parts under warranty. Novellus offers maintenance contracts as an additional service to its customers.

For the year ended December 31, 2001, one customer accounted for 16% of Novellus' net sales. For the year ended December 31, 2000, two customers accounted for 14% and 10% of Novellus' net sales and in 1999, three customers accounted for 16%, 12%, and 11% of the Company's net sales, respectively.

Export sales (including sales made by Novellus' Japanese subsidiary) for the year ended December 31, 2001 were approximately \$733.9 million, or 55% of net sales. Export sales for the year ended December 31, 2000 were approximately \$834.5 million, or 63% of net sales. For the year ended December 31, 1999, export sales were approximately \$407.7 million, or 62% of net sales. Historically, Novellus has sold a significant proportion of its systems in any particular period to a limited number of customers. Sales to Novellus' ten largest customers in 2001, 2000, and 1999 accounted for 61%, 71%, and 71% of net sales, respectively. The Company expects that sales of its products to relatively few customers will continue to account for a high percentage of its net sales in the foreseeable future. None of Novellus' customers has entered into a long-term agreement requiring it to purchase Novellus' products.

The Company believes that sales to certain of its customers will decrease in the near future as those customers complete current purchasing requirements for new or expanded fabrication facilities. Although the composition of the group comprising Novellus' largest customers has varied from year to year, the loss of a significant customer or any reduction in orders from any significant customer, including reductions due to customer departures from recent buying patterns, market, economic or competitive conditions in the semiconductor industry or in the industries that manufacture products utilizing integrated circuits, could adversely affect the Company's business, financial condition and results of operations. In addition, sales of Novellus' systems depend in significant part upon the decision of a prospective customer to increase manufacturing capacity or to expand current manufacturing capacity, both of which typically involve a significant capital commitment. Novellus has from time to time experienced delays in finalizing system sales following initial system qualification. Due to these and other factors, Novellus' systems typically have a lengthy sales cycle during which the Company may expend substantial funds and management effort.

Backlog

As of December 31, 2001, Novellus' backlog was \$266.5 million, as compared to a backlog of \$643.8 million at December 31, 2000. Novellus includes in its backlog only those customer orders for which it has accepted purchase orders and assigned shipment dates within twelve months. All orders are subject to cancellation or rescheduling by customers with limited or no penalties. Because of orders received in the same quarter in which a system is shipped, possible changes in system delivery schedules, cancellations of orders, and delays in systems shipments, Novellus' backlog at any particular date is not necessarily a reliable indicator of actual sales for any succeeding period.

Research and Development

The semiconductor manufacturing industry is subject to rapid technological change and new product introductions and enhancements. Novellus' ability to remain competitive in this market depends in part on its ability to develop new and enhanced systems, and to introduce these systems at competitive prices on a timely and cost-effective basis. Accordingly, Novellus devotes a significant portion of its personnel and financial resources to research and development programs and seeks to maintain close relationships with its customers to remain responsive to their product needs.

Novellus' current research and development efforts are directed at development of new systems and processes and improving existing system capabilities. The Company is focusing its research and development efforts on advanced PVD systems, advanced gap fill technology, primary conductor metals, low-K dielectric materials, and additional advanced deposition and surface preparation technologies for the next generation of smaller geometry fabrication lines. All new systems being developed are capable of processing 300mm wafers.

Expenditures for research and development during 2001, 2000, and 1999 were \$272.0 million, \$198.3 million, and \$129.1 million, respectively, or approximately 20%, 15%, and 20% of net sales, respectively. Novellus expects in future years that research and development expenditures will continue to represent a substantial percentage of net sales.

The success of Novellus in developing, introducing and selling new and enhanced systems depends upon a variety of factors, including product selection, timely and efficient completion of product design and development, timely and efficient implementation of manufacturing and assembly processes, product performance in the field, and effective sales and marketing. There can be no assurance that Novellus will be successful in selecting, developing, manufacturing and marketing new products or in enhancing its existing products. As is typical in the semiconductor capital equipment market, Novellus has experienced delays from time to time in the introduction of, and certain technical and manufacturing difficulties with, certain of its systems and enhancements, and may experience delays and technical and manufacturing difficulties in future introductions or volume production of new systems or enhancements. Novellus' inability to complete the development or meet the technical specifications of any of its new systems or enhancements or to manufacture and ship these systems or enhancements in volume in a timely manner would materially adversely affect the Company's business, financial condition, and results of operations. In addition, Novellus may incur substantial unanticipated costs to ensure the functionality and reliability of its future product introductions early in the product's life cycle. If new products have reliability or quality problems, reduced orders, or higher manufacturing costs, delays in collecting accounts receivable and additional service and warranty expense may result. Any of these events could materially adversely affect Novellus' business, financial condition, and results of operations.

Manufacturing

Novellus' manufacturing activities consist primarily of assembling and testing components and subassemblies which are acquired from third party vendors and then integrated into a finished system by Novellus. The Company utilizes an outsourcing strategy for the manufacture of major subassemblies, and performs system design, assembly, and testing in-house. Novellus believes that outsourcing enables it to minimize its fixed costs and capital expenditures while also providing the flexibility to increase production capacity. This strategy also allows Novellus to focus on product differentiation through system design and quality control. Through the use of outsourced product specialists, the Company believes that its subsystems incorporate advanced technologies in robotics, gas panels, and microcomputers. Novellus works closely with its suppliers on achieving mutual cost reduction through joint design efforts.

Novellus manufactures its system units in clean room environments similar to the clean rooms used by semiconductor manufacturers for wafer fabrication. This is intended to minimize the amount of particulates and other contaminants in the

final assembled system, which in turn improves yield and reduces the level of contaminants for the customer. Following assembly, the completed system is packaged in a plastic shrink-wrap to maintain clean room standards during shipment.

Novellus purchases parts, components, and subassemblies (collectively, "parts") from numerous suppliers for the manufacture and support of its products. Although Novellus makes reasonable efforts to ensure that parts are available from multiple suppliers, this is not always possible; accordingly, certain key parts are obtained from a single supplier or a limited group of suppliers. These suppliers are, in some cases, thinly capitalized, independent companies that generate significant portions of their business from Novellus and/or a small group of other companies in the semiconductor industry. Although Novellus seeks to reduce its dependence on these limited source suppliers, disruption or termination of certain of these sources could occur and such disruptions could have at least a temporary adverse effect on the Company's operations. Moreover, a prolonged inability to obtain certain components could have a material adverse effect on Novellus' business, financial condition, and results of operations, and could result in damage to customer relationships.

Competition

Significant competitive factors in the semiconductor equipment market include system performance and flexibility, cost, the size of each manufacturer's installed customer base, the capability for customer support, and the breadth of the product line. Novellus believes that it competes favorably in the deposition equipment marketplace primarily on the basis of system performance and flexibility, cost and customer support capability. In addition, Novellus believes that the acquisition of Varian's Thin Film Systems group in 1997 and its 1998 announcements of a copper primary conductor product will allow the Company to compete successfully in the PVD and copper Electrofill areas of the market, respectively.

However, the semiconductor equipment industry is highly competitive and characterized by increasingly rapid technological changes. Novellus faces substantial competition in the market in which it competes from both established competitors and potential new entrants. In the CVD and PVD areas of the market, Novellus' principal competitor is Applied Materials, Inc., which is a major supplier of CVD and PVD systems and has established a substantial base of CVD, PVD, and other equipment in large semiconductor manufacturers. In the copper Electrofill area of the market, Novellus' principal competitors are Semitool (which has a large installed base of R&D tools), and Applied Materials, which entered the market with an electroplating tool in April of 1999. In the surface preparation marketplace, Novellus' principal competitors are Mattson Technologies and Axcelis Technologies. Certain of Novellus' competitors have greater financial, marketing, technical, or other resources, broader product lines, greater customer service capabilities, and larger and more established sales organizations and customer bases than Novellus.

Novellus may also face future competition from new market entrants from other overseas and domestic sources. Novellus expects its competitors to continue to improve the design and performance of their products. There can be no assurance that Novellus' competitors will not develop enhancements to or future generations of competitive products that will offer price or performance features. In addition, a substantial investment is required by customers to install and integrate capital equipment into a semiconductor production line. As a result, once a semiconductor manufacturer has selected a particular vendor's capital equipment, Novellus believes that the manufacturer will be generally reliant upon that equipment for the specific production line application. Accordingly, the Company may experience difficulty in selling a product line to a particular customer for a significant period of time if that customer has selected a competitor's product. Increased competitive pressure could lead to lower prices for Novellus' products, thereby materially adversely affecting Novellus' business, financial condition, and results of operations. There can be no assurance that Novellus will be able to compete successfully in the future.

Patents and Proprietary Rights

Novellus intends to continue to pursue the legal protection of its technology primarily through patent and trade secret protection. The Company currently holds over 100 patents and intends to file additional patent applications as appropriate. There can be no assurance that patents will be issued from any of these pending applications or that any claims allowed from existing or pending patents will be sufficiently broad to protect Novellus' technology. While the Company intends to protect its intellectual property rights vigorously, there can be no assurance that any patents held by Novellus will not be challenged, invalidated or circumvented, or that the rights granted thereunder will provide competitive advantages to the Company (see Item 3 "Legal Proceedings"). Novellus also relies on trade secrets and proprietary technology that it seeks to protect, in part, through confidentiality agreements with employees, consultants, and other parties. There can be no assurance that these

agreements will not be breached, that Novellus will have adequate remedies for any breach, or that the Company's trade secrets will not otherwise become known to or independently developed by others.

There has been substantial litigation regarding patent and other intellectual property rights in semiconductor related industries. Novellus is currently involved in such litigation (see Item 3 "Legal Proceedings"). Except as set forth in Item 3, "Legal Proceedings," Novellus is not aware of any significant claim of infringement by its products of any patent or proprietary rights of others; however, it could become involved in additional litigation in the future. Although Novellus does not believe the outcome of the current litigation will have a material impact on the Company's business, financial condition, or results of operations, no assurances can be given that this litigation or future litigation will not have such an impact. In addition to the current litigation, Novellus' operations, including the further commercialization of the Company's products, could provoke additional claims of infringement from third parties. In the future, litigation may be necessary to enforce patents issued to Novellus, to protect trade secrets or know-how owned by Novellus or to defend the Company against claimed infringement of the rights of others and to determine the scope and validity of the proprietary rights of others. Any such litigation could result in substantial cost and diversion of effort by Novellus, which by itself could have a material adverse effect on the Company's financial condition and operating results. Further, adverse determinations in such litigation could result in Novellus' loss of proprietary rights, subject the Company to significant liabilities to third parties, require the Company to seek licenses from third parties or prevent the Company from manufacturing or selling its products, any of which could have a material adverse effect on Novellus' business, financial condition, and results of operations.

Employees

At December 31, 2001, Novellus had 3,311 full-time and temporary employees.

The success of Novellus' future operations depends in large part on the Company's ability to recruit and retain engineers and technicians, as well as marketing, sales, service and other key personnel, who in each case are in great demand. There can be no assurance that Novellus will be successful in retaining or recruiting key personnel.

None of Novellus' employees is represented by a labor union and the Company has never experienced a work stoppage, slowdown, or strike. Novellus currently considers its employee relations to be good.

Novellus' success depends to a significant extent upon a limited number of key employees and other members of senior management of the Company. The loss of the service of one or more of these key employees could have a material adverse effect on Novellus. Novellus' inability to effectively manage future growth, or to attract and retain the personnel it requires, could have a material adverse effect on the Company's business, financial condition, and results of operations.

Business Combinations

On January 10, 2001, Novellus merged with GaSronics International Corporation in a stock-for-stock merger, accounted for as a pooling-of-interests. In the transaction, Novellus acquired all outstanding shares of GaSronics in a stock-for-stock merger, with all outstanding shares of GaSronics capital stock converted into approximately 9,240,000 shares of Novellus common stock. In addition, all outstanding options to purchase shares of GaSronics capital stock were converted into options to purchase approximately 1,400,000 shares of Novellus common stock.

Environmental Matters

Neither compliance with federal, state and local provisions regulating discharge of materials into the environment, nor remedial agreements or other actions relating to the environment, has had, or is expected to have, a material effect on Novellus' capital expenditures, financial condition, results of operations or competitive position.

ITEM 2. PROPERTIES

Novellus' operations are primarily conducted in twelve buildings with approximately 768,000 square feet of space. Ten buildings totaling approximately 677,000 square feet are located in the San Jose, California area and two buildings totaling approximately 91,000 square feet are located in the Portland, Oregon area.

Novellus leases buildings located in its San Jose facility under agreements which expire in 2006. Certain of these leases have options to extend for three one-year renewal periods (with the lessor's consent). These buildings house three manufacturing operations, a research and development facility, an applications demonstration lab, various administrative and customer support offices, and the Company's headquarters.

Novellus' facilities located in the Portland area consist of two buildings in the cities of Tualatin and Wilsonville. The Company owns the Tualatin site totaling approximately 65,000 square feet and leases the Wilsonville site, which consists of approximately 26,000 square feet. These locations provide manufacturing, research and development, and customer support for the SABRE, Novellus' Electrofill product.

In April 2001, Novellus entered into a lease agreement for the development of various facilities on 23 acres of the Company's property adjacent to its Tualatin site. The site is currently under construction and will be developed in several phases. The first phase, to be completed in the second quarter of 2002, consists of the construction of four buildings, which will provide approximately 379,000 square feet of space for manufacturing, research and development, engineering, and training facilities.

Novellus leases several sites domestically totaling approximately 98,000 square feet of space. In addition, the Company subleases, or has available for sublease, approximately 317,000 square feet of space in and around the San Jose area.

The Company leases several sites internationally, which are used as sales and customer service centers totaling approximately 150,000 square feet of space. Novellus' European offices occupy approximately 20,000 square feet of space in various countries throughout Europe, including France, Germany, Italy, Ireland, the Netherlands, and the United Kingdom. Novellus' Asian offices occupy approximately 130,000 square feet of space in various countries throughout Asia, including China, India, Japan, Malaysia, Singapore, Korea, and Taiwan. The Company's Asian operations include approximately 28,000 square feet near Tokyo, Japan which serves as headquarters, sales office, service center, and technology and customer demonstration center for Novellus Systems Japan. During this fiscal year, the Company also expanded its presence in China, India, and Malaysia to support new customer requirements.

Novellus believes that its current facilities, including those under construction, are sufficient to meet the Company's requirements for the foreseeable future.

ITEM 3. LEGAL PROCEEDINGS

Applied Materials, Inc. vs. Varian Associates Inc. (Case No. C-9720523 RMW) and Novellus Systems, Inc. v. Applied Materials, Inc. (Case No. C-97-20551 RMW).

On July 7, 1997, prior to the consummation of the purchase of the TFS business unit from Varian Associates Inc. ("Varian"), Applied Materials, Inc. ("Applied") filed a complaint (the "Applied Complaint") against Varian in the United States District Court for the Northern District of California San Jose Division, Civil Action No. C-97-20523 RMW, alleging, among other things, infringement by Varian (including the making, using, selling and/or offering for sale of certain products and systems made by TFS) of United States Patent Nos. 5,171,412; 5,186,718; 5,496,455; and 5,540,821 (the "Applied Patents"), which patents are owned by Applied.

Immediately after consummation of the TFS purchase, Novellus filed a complaint (the "Novellus Complaint") against Applied in the same Court, Civil Action No. C-97-20551 RMW, alleging infringement by Applied (including the making, using, selling and/or offering for sale of certain products and systems) of United States Patent Nos. 5,314,597; 5,330,628; and 5,635,036 (the "Novellus Patents"), which patents Novellus acquired from Varian in the TFS purchase. In the Novellus Complaint, Novellus also alleged that it is entitled to declarations from Applied that Novellus does not infringe the Applied Patents and/or that the Applied Patents are invalid and/or unenforceable. Applied has filed counterclaims alleging that Novellus infringes the Applied Patents.

Also after consummation of the TFS purchase, but some time after Novellus filed the Novellus Complaint, Applied amended the Applied Complaint to add Novellus as a defendant. Novellus has requested that the Court dismiss Novellus as a defendant in Applied's lawsuit against Varian. The Court has not yet required Novellus to file an answer to the Applied Complaint.

In addition to a request for a permanent injunction against further infringement, the Applied Complaint and Applied's counterclaims to the Novellus Complaint include requests for damages for alleged prior infringement and treble damages for alleged "willful" infringement. In connection with the consummation of the TFS purchase, Varian agreed, under certain circumstances, to reimburse Novellus for certain of its legal and other expenses in connection with the defense and prosecution of this litigation, and to indemnify Novellus for a portion of any losses incurred by Novellus arising from this litigation (including losses resulting from a permanent injunction). Novellus and Varian believe that there are meritorious defenses to Applied's allegations, including among other things, that Novellus' operations (including TFS products and systems) do not infringe the Applied Patents and/or that the Applied Patents are invalid and/or unenforceable. However, the resolution of intellectual property disputes is often fact intensive and, therefore, inherently uncertain. Although Novellus believes that the ultimate outcome of the dispute with Applied will not have a material adverse effect on Novellus' business, financial condition, or results of operations (taking into account both the defenses available to Novellus and Varian's reimbursement and indemnity obligations), there can be no assurances that Applied will not ultimately prevail in this dispute and that, in such an event, Varian's reimbursement and indemnity obligations will not be sufficient to fully reimburse Novellus for its losses. If Applied were to prevail in this dispute, it could have a material adverse effect on Novellus' business, financial condition, or results of operations.

The Novellus Complaint against Applied also includes requests for damages for prior infringement and treble damages for "willful" infringement, in addition to a request for a permanent injunction for further infringement. Novellus believes that this litigation will not have a material adverse impact on Novellus' financial condition or results of operations, however, there can be no assurances that Novellus will prevail against Applied. If Applied were to prevail against Novellus, it could have a material adverse impact on Novellus' business, financial condition, or results of operations.

Semitool, Inc. v. Novellus Systems, Inc. (Case No. C-98-3089 DLJ)

On August 10, 1998, Semitool sued the Company for patent infringement in the United States District Court for the Northern District of California (the "District Court"). Semitool alleges that the Company's SABRETM and SABRETM xT copper deposition systems infringe two Semitool patents, U.S. Patent No. 5,222,310 (the "'310 patent'"), issued June 29, 1993, entitled "Single Wafer Processor with a Frame," and U.S. Patent No. 5,377,708 (the "'708 patent'"), issued January 3, 1995, entitled "Multi-Station Semiconductor Processor with Volatilization". Semitool seeks an injunction against the Company's manufacture and sale of the SABRETM and SABRETM xT systems, and seeks damages for past infringement. Semitool also seeks treble damages for alleged willful infringement. Semitool further seeks its attorneys' fees and costs, and interest on any judgment.

On September 24, 1999, the District Court ruled on the interpretation of the claims of the '310 and '708 patents. On December 18, 1999, the Company filed a motion for summary judgment of non-infringement.

On March 17, 2000, the District Court granted the Company's motion for summary judgment of non-infringement. The District Court ruled that the Company's SABRETM and SABRETM xT systems do not infringe the '310 and '708 patents.

On May 15, 2000, Semitool filed a notice of appeal, appealing the District Court's judgment to the United States Court of Appeals for the Federal Circuit (the "Federal Circuit"). On June 8, 2001, the Federal Circuit affirmed the District Court's judgment that the Company's SABRETM and SABRETM xT systems do not infringe the '310 and '708 patents.

On September 6, 2001, Semitool filed a petition for writ of certiorari with the United States Supreme Court to review the judgment of the Federal Circuit. On October 10, 2001, the Company filed an opposition to Semitool's petition for writ of certiorari. On October 24, 2001, Semitool filed a reply memorandum responding to the Company's opposition.

Novellus believes that this litigation will not have a material adverse impact on Novellus' financial condition or results of operations, however, there can be no assurances that Novellus will prevail against Semitool. If Semitool were to prevail against Novellus, it could have a material adverse impact on Novellus' business, financial condition, or results of operations.

Semitool, Inc. v. Novellus Systems, Inc. (Case No. CV-01-874-BR)

On June 11, 2001, Semitool sued the Company for patent infringement in the United States District Court for the District of Oregon. Semitool alleges that the Company infringes Semitool's U.S. Patent No. 6,197,181, issued March 6, 2001, entitled "Apparatus and Method for Electrolytically Depositing a Metal on a Microelectronic Workpiece". Semitool seeks an injunction against the Company and damages for past infringement. Semitool also seeks treble damages for alleged willful infringement. Semitool further seeks its attorneys' fees and costs, and interest on any judgment.

On November 13, 2001, the Company countersued Semitool for patent infringement in the United States District Court for the District of Oregon. The Company alleges that Semitool infringes the Company's U.S. Patent Nos. 6,179,983, issued January 30, 2001 and entitled "Method and Apparatus for Treating Surface Including Virtual Anode;" 6,162,344, issued December 19, 2000 and entitled "Method of Electroplating Semiconductor Wafer Using Variable Currents and Mass Transfer to Obtain Uniform Plated Layer;" 6,110,346, issued August 29, 2000 and also entitled "Method of Electroplating Semiconductor Wafer Using Variable Currents and Mass Transfer to Obtain Uniform Plated Layer;" and 6,074,544, issued June 13, 2000 and also entitled "Method of Electroplating Semiconductor Wafer Using Variable Currents and Mass Transfer to Obtain Uniform Plated Layer." The Company seeks an injunction against Semitool and damages for past infringement. The Company also seeks treble damages for willful infringement by Semitool. The Company further seeks its attorneys' fees and costs, and interest on any judgment.

Although it is inherently difficult to assess the outcome of litigation matters when the litigation is in such an early stage, Novellus believes that this litigation will not have a material adverse impact on Novellus' financial condition or results of operations; however, there can be no assurances that Novellus will prevail against Semitool. If Semitool were to prevail against Novellus, it could have a material adverse impact on Novellus' business, financial condition, or results of operations.

Plasma Physics Litigation. (Case No. 00 CV-3146-LDW)

On December 28, 1999, Plasma Physics Corporation and Solar Physics Corporation (collectively, "Plasma Physics") filed a patent infringement lawsuit against many of the Company's Japanese and Korean customers. The suit was entitled Plasma Physics and Solar Physics v. Fujitsu et al., Civil Action No. 99-8593, and was pending in the United States District Court for the Eastern District of New York. On July 24, 2000, the Court ordered Plasma Physics to re-file separate complaints against the Japanese and Korean defendants, whereupon, Civil Action No. 99-8593 would be dismissed without prejudice. In accordance with the Court's order, Plasma Physics re-filed separate complaints against the Japanese and Korean defendants in the United States District Court for the Eastern District of New York. Many of the defendants notified the Company that they believed that the Company had indemnification obligations and liability for the lawsuits.

Plasma Physics asserted U.S. Patent Nos. 4,226,897, 5,470,784, and/or 5,543,634 (the "'897, '784, and '634 patents," respectively) against the defendants. Plasma Physics sought an injunction against the defendants' alleged infringement of the '784 and '634 patents (the '897 patent had expired). Plasma Physics also sought treble damages for alleged willful infringement. Plasma Physics further sought its attorney's fees and costs, and interest on any judgment. All of the Japanese and Korean defendants who are or were customers of the Company have since settled with Plasma Physics.

On June 1, 2000, the Company filed a declaratory relief action against Plasma Physics and Solar Physics requesting a judgment of non-infringement, invalidity, and unenforceability with respect to the '897 and '784 patents. The suit is entitled Novellus v. Plasma Physics and Solar Physics, Civil Action No. 00-3146, and is pending in the United States District Court for the Eastern District of New York. On June 30, 2000, Plasma Physics filed a motion to dismiss the Company's complaint for a lack of subject matter jurisdiction. Plasma Physics' motion to dismiss the Company's complaint was denied without prejudice on July 24, 2000. On July 31, 2000, Plasma Physics filed an Answer and Conditional Counterclaim. Plasma Physics denies that the '897 and '784 patents are invalid and unenforceable. Plasma Physics further denies that the '784 patent is not infringed by the Company. Plasma Physics also asserted a conditional counterclaim against the Company, alleging that the Company's PECVD processing systems infringe the '784 patent.

On June 12, 2001, the United States Patent and Trademark Office issued to Plasma Physics U.S. Patent No. 6,245,648, entitled "Method of Forming Semiconducting Materials and Barriers" (the "'648 Patent"). On June 13, 2001, Plasma Physics sent a letter to the Company, indicating that it may sue the Company's customers for their alleged infringement of the '648 Patent.

Novellus believes that this litigation will not have a material adverse impact on Novellus' financial condition or results of operations, however, there can be no assurances that Novellus will prevail against Plasma Physics. If Plasma Physics were to prevail against Novellus, it could have a material adverse impact on Novellus' business, financial condition, or results of operations.

Other Litigation

In addition, in the normal course of business, Novellus from time to time receives inquiries with regard to possible other patent infringements. Novellus believes it is unlikely that the outcome of the patent infringement inquiries will have a material adverse effect on Novellus' financial position or results of operations.

There has been substantial litigation regarding patent and other intellectual property rights in semiconductor related industries. Although Novellus is not aware of any significant claim of infringement by its products of any patents or proprietary rights of others except as claimed by Applied, Semitool, and Plasma Physics, further commercialization of Novellus' products could provoke claims of infringement from third parties. In the future, litigation may be necessary to enforce patents issued to Novellus, to protect trade secrets or know-how owned by Novellus or to defend Novellus against claimed infringement of the rights of others and to determine the scope and validity of the proprietary rights of others. Any such litigation could result in substantial cost and diversion of effort by Novellus, which by itself could have a material adverse effect on Novellus' financial condition and operating results. Further, adverse determinations in such litigation could result in Novellus' loss of proprietary rights, subject Novellus to significant liabilities to third parties, require Novellus to seek licenses from third parties or prevent Novellus from manufacturing or selling its products, any of which could have a material adverse effect on Novellus' business, financial condition or results of operations.

Novellus is a defendant or plaintiff in various actions that arose in the normal course of business. In the opinion of management, the ultimate disposition of these matters will not have a material adverse effect on Novellus' business, financial condition, or results of operations.

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY AND RELATED SHAREHOLDER MATTERS

Stock Information

Novellus' common stock is traded on the NASDAQ Stock Market and is quoted on the NASDAQ National Market under the symbol "NVLS". The following table sets forth the high and low closing prices as reported by the NASDAQ National Market for the periods indicated:

2001	High	Low
First Quarter	\$48.38	\$35.13
Second Quarter	58.09	33.88
Third Quarter	56.66	28.00
Fourth Quarter	45.50	26.40
2000	High	Low
First Quarter ⁽¹⁾	\$69.94	\$39.27
Second Quarter	66.69	40.06
Third Quarter	68.44	43.88
Fourth Quarter	47.75	25.94

⁽¹⁾ Stock prices have been restated to reflect Novellus' three-for-one stock split, effective January 15, 2000.

Novellus has not paid cash dividends on its common stock since inception, and its Board of Directors presently plans to reinvest the Company's earnings in its business. Accordingly, it is anticipated that no cash dividends will be paid to holders of common stock in the foreseeable future. As of December 31, 2001, there were 955 holders of record of Novellus' common stock.

ITEM 6. SELECTED FINANCIAL DATA

The following selected financial data of Novellus is qualified by reference to and should be read in conjunction with the consolidated financial statements of the Company, including the notes thereto, and Management's Discussion and Analysis of Financial Condition and Results of Operations, which follows this selected data. The following selected financial data of the Company includes the operating results and financial data of the Company and GaSonics International Corporation for all periods. The Company merged with GaSonics International Corporation on January 10, 2001, in a transaction accounted for as a pooling of interests.

Selected Consolidated Financial Data (in thousands, except per share data)

Year Ended December 31,	2001	2000 ⁽³⁾	1999	1998	1997
Consolidated Statements of Operations Data:					
Net sales	\$ 1,339,322	\$ 1,319,486	\$ 657,021	\$ 619,208	\$ 655,260
Gross profit	691,351	730,893	351,839	330,774	354,913
Income (loss) before cumulative effect of change in accounting principle	144,470 ⁽⁵⁾	239,168 ⁽⁴⁾	68,707	47,115	(92,657) ⁽¹⁾
Cumulative effect of change in accounting principle	—	(89,788)	—	—	—
Net income (loss)	\$ 144,470	\$ 149,380 ⁽³⁾	\$ 68,707	\$ 47,115	\$ (92,657)
Per common share:					
Income (loss) before cumulative effect of change in accounting principle					
Basic	\$ 1.01 ⁽⁵⁾	\$ 1.76 ⁽⁴⁾	\$ 0.56	\$ 0.43	\$ (0.87)
Diluted	\$ 0.97 ⁽⁵⁾	\$ 1.66 ⁽⁴⁾	\$ 0.54	\$ 0.42	\$ (0.87)
Cumulative effect of change in accounting principle, net of tax					
Basic	—	\$ (0.66)	—	—	—
Diluted	—	\$ (0.62) ⁽³⁾	—	—	—
Net income (loss)					
Basic	\$ 1.01 ⁽⁵⁾	\$ 1.10	\$ 0.56	\$ 0.43	\$ (0.87) ⁽¹⁾
Diluted	\$ 0.97 ⁽⁵⁾	\$ 1.04	\$ 0.54	\$ 0.42	\$ (0.87) ⁽¹⁾
Shares used in basic per share calculations	142,462	135,728	122,261	109,406	106,860
Shares used in diluted per share calculations	148,924	143,654	127,826	112,437	106,860 ⁽²⁾
Pro forma amounts with the change in accounting principle related to revenue recognition applied retroactively: (unaudited) ⁽³⁾					
Net revenues	—	—	\$ 582,397	*	*
Net income	—	—	39,550	*	*
Net income per share:					
Basic	—	—	\$ 0.32	*	*
Diluted	—	—	\$ 0.31	*	*
Consolidated Balance Sheet Data:					
Cash, cash equivalents, and short-term investments	\$ 921,822	\$ 1,219,664	\$ 413,014	\$ 163,156	\$ 122,973
Working capital	1,379,543	1,410,836	646,063	344,908	283,159
Total assets	3,009,662	2,205,474	1,000,352	649,155	597,682
Long-term obligations	—	—	—	65,223	65,401
Shareholders' equity	1,871,994	1,641,475	837,537	450,873	380,194

* Data is not available to provide pro forma information for these years.

- (1) Novellus' reported loss of \$92.7 million or \$0.87 per share for the year ended December 31, 1997 includes pre-tax one-time charges totaling \$238.1 million, consisting of \$133.5 million in connection with the acquisition of TFS, a write-off of \$20.6 million in connection with outstanding accounts receivable from Submicron Technology, Inc. and charges totaling \$84.0 million in connection with the May 4, 1997 settlement of the TEOS patent litigation.

- (2) Excludes common stock equivalents, as they are antidilutive to the loss per share for the year.
- (3) Novellus recorded a non-cash charge of \$89.8 million, after reduction for income taxes of \$48.6 million, or \$0.62 per diluted share, to reflect the cumulative effect of the accounting change as of January 1, 2000 related to the adoption of Staff Accounting Bulletin No. 101, "Revenue Recognition in Financial Statements."
- (4) Net income for the year ended December 31, 2000 includes a charge of \$6.0 million for in-process research and development associated with the acquisition of Gamma Precision Technology or \$0.04 per diluted share.
- (5) Novellus recorded one-time charges totaling \$84.5 million, \$58.2 million, net of tax, or \$0.39 per diluted share, associated with restructuring and merger activities, the other than temporary decline in value of an investment, and the write-off of a bad debt.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Novellus Systems, Inc. ("Novellus" or the "Company") manufactures, markets, and services advanced systems used to deposit thin conductive and insulating films on semiconductor devices, as well as equipment for preparing the device surface prior to these deposition processes. Demand for Novellus' systems can vary significantly from period to period as a result of various factors, including, but not limited to, downturns in the semiconductor industry, supply and demand for semiconductor devices, and substantial competition in the semiconductor industry among suppliers of similar products. For these and other reasons, Novellus' results of operations for fiscal 2001, 2000, and 1999 (which include results of operations for GaSonics International Corporation) may not necessarily be indicative of future operating results.

As more fully described in Note 2 to the Financial Statements, Novellus merged with GaSonics International Corporation ("GaSonics"), a developer and supplier of photoresist and residue removal technologies on January 10, 2001 in a pooling of interests transaction. The consolidated financial statements for fiscal 2000 and 1999 have been restated to include the financial position, results of operations, and cash flows of GaSonics. Because of differing year ends, financial information relating to Novellus' fiscal years ended December 31, 2000 and 1999 has been combined with financial information relating to GaSonics' fiscal years ended September 30, 2000 and 1999, respectively. GaSonics' net income for the three months ended December 31, 2000 was not combined with Novellus' net income, but rather was included as an adjustment to shareholders' equity. Revenue and net income of GaSonics for the three-month period ended December 31, 2000, which is excluded from the accompanying statements of operations, was \$47.7 million and \$0.9 million, respectively. There were no transactions between GaSonics and Novellus prior to the combination.

Critical Accounting Policies and Estimates

Novellus' discussion and analysis of its financial condition and results of operations are based upon Novellus' consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires Novellus to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. On an ongoing basis, Novellus evaluates its estimates, including those related to allowance for doubtful accounts, inventories, investments, deferred tax assets, income taxes, warranty obligations, restructuring, and contingencies and litigation. Novellus bases its estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

Novellus believes the following critical accounting policies affect its more significant judgments and estimates used in the preparation of its consolidated financial statements.

Revenue Recognition

Novellus changed its revenue recognition policy effective January 1, 2000, based on guidance provided in SEC Staff Accounting Bulletin No. 101 ("SAB 101"), "Revenue Recognition in Financial Statements" and "SAB 101: Revenue Recognition in Financial Statements-Frequently Asked Questions and Answers ("SAB 101 FAQ")." Novellus recognizes

revenue when persuasive evidence of an arrangement exists, delivery has occurred or services have been rendered, the seller's price is fixed or determinable, and collectibility is reasonably assured. Certain of Novellus' product sales are accounted for as multiple-element arrangements. If the Company has met defined customer acceptance experience levels with both the customer and the specific type of equipment, then Novellus recognizes equipment revenue upon shipment and transfer of title, with the remainder when it becomes due (generally upon acceptance). All other equipment sales are recognized upon customer acceptance. Revenue related to spare part sales is recognized on shipment. Revenue related to maintenance and service contracts is recognized ratably over the duration of the contracts. Unearned maintenance and service contract revenue is not significant and is included in accrued liabilities.

In accordance with guidance provided in SAB 101 and SAB 101 FAQ, Novellus recorded a non-cash charge of \$89.8 million (after reduction for income taxes of \$48.6 million), or \$0.62 per diluted share, to reflect the cumulative effect of the accounting change as of the beginning of fiscal year 2000. The decrease to net income before the cumulative effect of the accounting change as a result of the adoption of SAB 101 and SAB 101 FAQ was a decrease of \$98.1 million or \$0.68 per diluted share for fiscal year 2000.

The deferred profit balance as of January 1, 2000 was \$138.4 million. This amount is comprised of equipment that was shipped and previously recorded as revenue but had not been accepted or did not qualify for multiple-element accounting as of December 31, 1999. In addition to deferred revenue, deferred profit includes deferred amounts related to cost of sales and commissions. Related to the \$138.4 million in deferred profit, \$134.2 million was recognized as revenue in fiscal 2000 with the remaining \$4.2 million being recognized in 2001. The unaudited pro forma amounts presented in the income statement were calculated assuming the accounting change was retroactive to prior periods.

Prior to 2000, Novellus' revenue recognition policy was to recognize revenue at the time the customer takes title to the product, generally at the time of shipment. Revenue related to maintenance and service contracts was recognized ratably over the duration of the contracts.

Allowance for Doubtful Accounts

Novellus evaluates its allowance for doubtful accounts based on a combination of factors. In circumstances where the Company is aware of a specific customer's inability to meet its financial obligations to us (e.g. bankruptcy filings, substantial downgrading of credit ratings), Novellus records a specific allowance for bad debts against amounts due to reduce the net recognized receivable to the amount Novellus reasonably believes will be collected. For all other customers, Novellus recognizes a reserve for bad debts based on a certain percentage of total revenues, which is based on the Company's historical experience over five years. If circumstances change (e.g. higher than expected defaults or an unexpected material adverse change in a major customer's ability to meet its financial obligations to us), the Company may amend its estimates of the recoverability of amounts due to Novellus.

Inventory Reserves

Novellus assesses the recoverability of all inventory, including raw materials, work-in-process, finished goods, and spare parts to determine whether adjustments for impairment are required. Inventory which is obsolete or in excess of the Company's forecasted usage is written down to its estimated market value based on assumptions about future demand and market conditions. If actual demand is lower than the Company's forecast, additional inventory write-downs may be required.

Warranty and Installation

Novellus' warranty and installation policy generally states that the Company will provide installation services as well as warranty coverage, for a predetermined amount of time, on systems and modules for material and labor to repair and service the equipment. Novellus records the estimated cost of warranty coverage and installation upon system shipment. The estimated cost of warranty and installation coverage is determined by the warranty term as well as the average historical warranty and installation expense for a specific tool. Should actual product failure rates, material usage, or installation costs differ from Novellus' estimates, revisions to the estimated warranty and installation liability may be required.

Investments

The Company classifies its marketable securities as available-for-sale in accordance with the provisions of the Statement of Financial Accounting Standard ("SFAS") No. 115, "Accounting for Certain Investments in Debt and Equity Securities." Securities classified as available-for-sale are reported at fair market value with the related unrealized gains and losses included, net of tax, in accumulated other comprehensive income (loss). Realized gains and losses and declines in value of securities judged to be other than temporary are included in other income. Interest on all securities is included in interest

income. Future adverse changes in market conditions or poor operating results of underlying investments could result in losses or an inability to recover the carrying value of the investments that may not be reflected in an investment's current carrying value, thereby possibly requiring impairment charges in the future. The fair values of investments are determined using quoted market prices if available and estimated using discounted cash flows and market interest rates if quoted market prices are not available.

Deferred Tax Assets

Novellus records a valuation allowance to reduce its deferred tax assets to the amount that is more likely than not to be realized. While Novellus has considered future taxable income and ongoing prudent and feasible tax planning strategies in assessing the need for the valuation allowance, in the event Novellus were to determine that it would be able to realize its deferred tax assets in the future in excess of its net recorded amount, an adjustment to the deferred tax asset would increase income in the period such determination was made. Likewise, should Novellus determine that it would not be able to realize all or part of its net deferred tax asset in the future, an adjustment to the deferred tax asset would be charged to income in the period such determination was made.

Restructuring

During 2001, the Company recorded restructuring charges in connection with a plan to restructure Novellus' operations. These accruals were calculated net of estimated future sublease income that Novellus expects to receive once the Company sublets facilities which it has vacated. If the length of time before the Company finds tenants for these facilities or the market rental rates differs significantly from Novellus' estimates, the Company's actual costs will differ from the charge which was initially recorded.

Contingencies and Litigation

The Company makes an assessment of the probability of an adverse judgment resulting from current and threatened litigation. The Company would accrue the cost of an adverse judgment if, in the Company's estimation, the adverse settlement is probable and the Company can reasonably estimate the ultimate cost to the Company. Novellus has made no such accruals at December 31, 2001.

Results Of Operations

Net Sales

Net sales were \$1,339.3 million, \$1,319.5 million, and \$657.0 million in 2001, 2000, and 1999, respectively. The increase of approximately 2% from 2000 is attributable to increases in Novellus' Electrofill and 300mm product lines offset by decreases in the Company's 200mm tools. The increase of approximately 101% from 2000 compared to 1999 reflected the increase in shipments across all product lines as the semiconductor industry increased purchases related to both capacity and technology. International sales were approximately 55% of net sales in 2001, a decrease from 63% in 2000. The decrease in international sales as a percentage of net sales in 2001 is attributable to lower demand in the Pacific Rim and Korea, partially offset by higher demand in Japan. International sales were approximately 63% of net sales in 2000, an increase from 62% in 1999. The increase in international sales as a percentage of net sales in 2000 was the result of higher demand in the Pacific Rim, Japan, and Europe partially offset by lower demand in Korea.

Gross Profit

Gross profit was \$691.4 million, \$730.9 million, and \$351.8 million in 2001, 2000, and 1999, respectively. As a percentage of net sales, gross profit was 52% in 2001 and 55% and 54% in 2000 and 1999, respectively. Gross profit as a percentage of net sales in 2001 decreased from prior fiscal periods due to reduced absorption of fixed overhead resulting from lower shipments and from lower gross margins on 300mm systems, which have higher costs as they are not yet in high volume production, a \$7.1 million charge associated with the Company's restructuring plan, offset by the Company's decision to cancel its 2001 bonus and profit sharing programs. The increase in gross profit as a percentage of net sales from 1999 to 2000 reflects successful cost reduction efforts and improved absorption of fixed overhead costs due to the increased levels of shipments.

Selling, General, and Administrative

Selling, general, and administrative ("SG&A") expense was \$198.6 million, \$232.7 million, and \$137.4 million in 2001, 2000, and 1999, respectively. As a percentage of net sales, SG&A expense was approximately 15%, 18%, and 21% in 2001, 2000, and 1999, respectively. The decrease in absolute dollars and as a percentage of sales in 2001 over the prior year is due to the impact of cost reduction measures implemented in the first quarter of 2001 including mandatory vacation days, travel

and other discretionary spending reductions, temporary work force reductions, capital spending reductions, executive and employee pay reductions, facilities consolidation, as well as the cancellation of the 2001 bonus and profit sharing programs. The decrease in SG&A expense as a percentage of sales in 2000 over 1999 reflects Novellus' ongoing efforts to control and reduce SG&A expense as a percentage of net sales despite the rapid growth in revenues.

Research and Development

Research and development ("R&D") expense was \$272.0 million, \$198.3 million, and \$129.1 million in 2001, 2000, and 1999, respectively. The increases reflect Novellus' continued commitment to the development of new products, including advanced PVD systems, advanced gap fill technology, primary conductor metals, low-K dielectric materials, and additional advanced deposition and surface preparation technologies for the next generation of smaller geometry fabrication lines, as well as equipment to process 300mm wafers. The increase from 2000 to 2001 was partially offset by Novellus' cancellation of the 2001 bonus and profit sharing programs. The increase from 1999 to 2000 reflects a full period of costs associated with the Company's investment in its facilities infrastructure to support its ongoing R&D commitment. As a percentage of net sales, R&D expense was approximately 20%, 15%, and 20% in 2001, 2000, and 1999, respectively. Novellus continues to believe that significant investment in R&D is required to remain competitive, and plans to continue to invest in new products and increase research and development spending in absolute dollars, although such expenses as a percentage of net revenues may fluctuate between periods.

Special Charges

In September 2001, Novellus announced its intention to restructure its operations, which was driven by the decline in Novellus' orders due to the contraction of the semiconductor capital equipment market from calendar year 2000 levels. During the third quarter of 2001, the restructuring plan was approved by the appropriate level of management necessary to commit the Company to its specific actions. The Company began implementing the plan during the third quarter of 2001 and recorded restructuring and asset impairment charges totaling \$55.0 million, of which \$47.9 million is included in operating expenses and \$7.1 million is included in cost of sales. The restructuring charges included \$33.8 million related to vacated facilities, \$9.5 million related to abandoned assets associated with the discontinuation of certain projects, and \$4.6 million related to the write-off of purchased technology. Additionally, the discontinuation of certain projects resulted in \$7.1 million of inventory write-downs, which are included in cost of sales. Under the restructuring plan, the Company expects \$42.6 million in cost savings over the next five years. However, Novellus cannot ensure that these estimated costs savings will materialize.

The charge for vacated facilities relates to rent obligations after the abandonment of certain facilities currently under long-term operating lease agreements. When applicable, anticipated future sublease income relating to vacated buildings has been offset against the charge for the remaining lease payments. Leasehold improvements relating to the vacated buildings which have no future economic benefit have been abandoned. Additionally, certain fixed assets associated with these facilities had no future economic benefit and have been written off. The charge for abandoned assets and discontinued inventory are associated with programs exited by Novellus. The write-off of purchased technology relates to technology which has been abandoned by the Company. Except for the future rent obligations and the sublease of Novellus' vacated facilities, substantially all actions under the restructuring plan have been achieved as of December 31, 2001. The remaining \$26.8 million balance of the restructuring accrual is for future rent obligations which are to be paid in cash over the next five years. For further discussion, see Notes to Consolidated Financial Statements, "Special Charges."

Merger costs related to the acquisition of GaSronics were \$13.2 million during the year ended December 31, 2001. These costs included professional fees, financial printing, and other related costs. Additionally, these costs included charges related to the cancellation of various contracts and the write-off of certain redundant assets.

In fiscal 1999, GaSronics reduced its workforce in response to market conditions and recorded a charge of \$0.4 million, primarily for costs of severance compensation and consolidation of facilities. At December 31, 2000, the costs had been paid in full.

Bad Debt Write-off

In September 2001, Novellus determined that due to the financial difficulties facing one of its customers, an outstanding accounts receivable balance was at risk for collection. Accordingly, Novellus recorded a write-off of \$7.7 million.

In-process Research and Development

In fiscal 2000, GaSonics recorded a charge of \$6.0 million for the write-off of in-process research and development associated with the acquisition of Gamma Precision Technologies, Inc. ("GPT") because, in management's opinion, certain of GPT's ongoing research and development projects had not reached technological feasibility and had no alternative future use including development, engineering and testing activities associated with the introduction of GPT's new technologies and products.

Other Income

Other income was \$57.4 million, \$56.3 million, and \$15.2 million, in 2001, 2000, and 1999, respectively. The increase from 2000 to 2001 is attributable to higher cash and short-term investment balances in the second half of the year as a result of the \$880.0 million convertible debenture offering, partially offset by an \$8.6 million write-down of an equity investment due to an other than temporary decline in fair value under SFAS 115. The increase from 1999 to 2000 is attributable to higher cash and short-term investment balances, as a result of a public offering in April 2000 of approximately 9.0 million shares of common stock that resulted in net proceeds to the Company of approximately \$526.3 million and cash provided by operating activities. In May of 2000, GaSonics, which at that time was a publicly held company, raised \$46.6 million in a public offering of approximately 1.0 million shares (after giving effect to the merger exchange ratio of 0.52 Novellus shares for each outstanding GaSonics share). In addition, long-term borrowings of \$65.0 million were repaid in 1999, which resulted in a reduction of interest expense in 2000.

Provision for Income Taxes

The provision for income taxes reflects an effective tax rate of 31.0% in 2001, 31.7% in 2000, and 31.4% in 1999.

Deferred Tax Asset

As of December 31, 2001, Novellus has approximately \$65.0 million of net deferred tax assets related principally to items that are not currently deductible. The Company's management believes the deferred tax assets will be realized due to anticipated future income and potentially refundable taxes in available carryback periods. Novellus also has a valuation allowance of \$7.6 million related to future tax amortization which will not be deductible until 2010 and beyond.

Net Income

Net income for the year ended December 31, 2001 was \$144.5 million or \$1.01 and \$0.97 per basic and diluted shares, respectively, compared with net income for the year ended December 31, 2000 of \$149.4 million or \$1.10 and \$1.04 per basic and diluted shares, respectively. Net income, before one-time charges of \$84.5 million, for the year ended December 31, 2001 was \$202.7 million or \$1.42 and \$1.36 per basic and diluted shares, respectively.

Net income for the year ended December 31, 2000 was \$149.4 million or \$1.10 and \$1.04 per basic and diluted shares, respectively, compared with net income for the year ended December 31, 1999 of \$68.7 million or \$0.56 and \$0.54 per basic and diluted shares, respectively. Net income, before an \$89.8 million charge related to the cumulative effect of a change in accounting principle associated with Novellus adopting SAB 101, for the year ended December 31, 2000 was \$239.2 million. On a basic and diluted share basis, earnings per share were \$1.76 and \$1.66, respectively, before the charge for the cumulative effect of an accounting change.

The number of shares used in the per share calculations for the year ended December 31, 2001 was 142.5 million and 148.9 million shares, respectively, for basic and diluted income per share calculations, compared with 135.7 million and 143.7 million shares, respectively for the year ended December 31, 2000. The increase in shares compared to the prior year is primarily due to the issuance of 9.2 million shares associated with the stock-for-stock merger with GaSonics in January 2001 and the exercise of stock options during the year.

The number of shares used in the per share calculations for the year ended December 31, 2000 was 135.7 million and 143.7 million shares, respectively, for basic and diluted income per share calculations, compared with 122.3 million and 127.8 million shares, respectively for the year ended December 31, 1999. The increase in shares is primarily due to an increased number of common shares outstanding resulting from the common stock offerings of 9.0 million shares in April 2000 and 1.0 million shares in May 2000 and the exercise of stock options in 2000.

Foreign Currency Accounting

The local currency is the functional currency for all foreign operations. Accordingly, translation gains or losses related to the foreign subsidiaries are included as a component of accumulated other comprehensive income (loss).

Foreign Exchange Contracts

Novellus conducts its business in various foreign currencies. The Company enters into forward foreign exchange contracts primarily as an economic hedge of the short-term impact of foreign currency fluctuations of intercompany accounts payable denominated in U.S. dollars recorded by Novellus' Japanese subsidiary. Novellus also enters into forward foreign exchange contracts to buy and sell foreign currencies as economic hedges of the parent's intercompany balances denominated in a currency other than the U.S. dollar. In 2001, 2000, and 1999, these hedging contracts were denominated primarily in the Japanese Yen. The maturities of all the forward foreign exchange contracts are generally short-term in nature. As the impact of movements in currency exchange rates on forward foreign exchange contracts offset the related impact on the underlying items being hedged, Novellus believes these financial instruments do not subject the Company to speculative risk that would otherwise result from changes in currency exchange rates. Net foreign currency gains and losses have not been significant.

Related Parties

One customer represented 16%, 14%, and 11% of Novellus' sales during the years ended December 31, 2001, 2000, and 1999, respectively. A member of Novellus' board of directors also serves on the board of directors of this customer, and therefore, the customer is considered a related party.

Recent Accounting Pronouncements

In June 2001, the Financial Accounting Standards Board ("FASB") issued Statement of Financial Accounting Standards No. 141 ("SFAS 141"), "Business Combinations." SFAS 141 requires the purchase method of accounting for all business combinations and eliminates the pooling-of-interests method for business combinations initiated after June 30, 2001. SFAS 141 also includes guidance on the initial recognition and measurement of goodwill and other intangible assets arising from business combinations completed after June 30, 2001. The Company does not expect the adoption of SFAS 141 to have a material effect on its financial condition or results of operations.

In June 2001, the FASB issued SFAS 142, "Goodwill and Other Intangible Assets." SFAS 142 discontinues amortization of goodwill and intangible assets deemed to have indefinite lives and requires such assets to be reviewed at least annually for impairment. SFAS 142 also includes provisions on the identification of intangible assets, reclassification of certain intangibles from previously reported goodwill, and reassessment of the useful lives of existing intangibles. Novellus will apply SFAS 142 beginning in the first quarter of 2002. Application of the non-amortization provisions of SFAS 142 is expected to result in an increase in operating income of \$3.5 million in 2002. Novellus will test goodwill for impairment using the two-step process prescribed in SFAS 142. The first step is to screen for potential impairment, while the second step measures the amount of the impairment, if any. Novellus expects to perform the first of the required impairment tests of goodwill and indefinite lived intangible assets as of January 1, 2002 in the first quarter of 2002. Novellus does not expect the effect of these tests to be material to its financial condition or results of operations.

In July 2001, the FASB issued SFAS 143, "Accounting for Asset Retirement Obligations," which addresses accounting and reporting for obligations associated with the retirement of tangible long-lived assets and the associated asset retirement costs. SFAS 143 is effective for fiscal years beginning after June 15, 2002. The Company is currently assessing the impact of this new standard, however, Novellus does not expect its adoption to be material to its financial condition or results of operations.

In August 2001, the FASB issued SFAS 144, "Impairment or Disposal of Long-Lived Assets," which is effective for fiscal years beginning after December 15, 2001. SFAS 144 supersedes SFAS 121, "Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to be Disposed Of," and provides a single accounting model for impairment of long-lived assets. Novellus does not expect the adoption of SFAS 144 to have a material effect on the Company's financial condition or results of operations.

On February 27, 2002, the FASB met and discussed changes to their consolidations project that could substantially change the accounting for synthetic leases. The FASB plans to allow the public to comment on an Interpretation of FASB Statement No. 94, "Consolidated Financial Statements" which will include proposed changes which may affect the accounting for synthetic leases. The FASB plans to issue a Draft by April 30, 2002 and to finalize the Statement by July 31, 2002. The FASB intends to issue the final Statement with an effective date being the first day of the first fiscal year beginning after December 15, 2002 (January 1, 2003 for Novellus). If the final Statement is consistent with the Company's understanding of the discussions held through March 21, 2002, Novellus believes that assets associated with the Company's synthetic leases would be treated as if Novellus purchased the assets. The treatment would result in an increase to property and equipment of approximately \$464.6

million. Novellus' lease receivable and cash collateral would be returned to the Company as cash or used to offset the purchase price of the properties. As a result of the purchase, depreciation expense would increase by approximately \$30.0 million to \$35.0 million per year, and rent expense and interest income would each decrease by approximately \$15.0 million per year based on current interest rates. For further information, see Notes to the Consolidated Financial Statements, "Commitments."

Euro Conversion

Effective January 1, 2002, several member countries of the European Union adopted the Euro as their new common legal currency. The introduction and use of the Euro has not had a material effect on Novellus' foreign exchange and hedging activities or overall foreign currency risk, and the Company does not presently expect that it will. While the Company will continue to evaluate the impact of the Euro over time, based on currently available information, Novellus does not believe that the use of the Euro currency will have a material adverse impact on the Company's consolidated business, financial position, or results of operations.

Liquidity and Capital Resources

Novellus has historically financed its operating and capital resource requirements through cash flows from operations, sales of equity securities, and borrowings. Novellus' primary source of funds at December 31, 2001 consisted of \$921.8 million of cash, cash equivalents, and short-term investments. This amount represents a decrease of \$297.8 million from the December 31, 2000 balance of \$1,219.7 million. The decrease is primarily attributable to Novellus' decision to participate in certain of its operating leases. Novellus' participation in its operating leases is further discussed below.

Net cash provided by operating activities during the year ended December 31, 2001 was \$77.1 million. This amount consisted primarily of net income of \$144.5 million and a decrease in accounts receivable of \$167.7 million, partially offset by a decrease in deferred profit of \$153.1 million and an increase in prepaids and other current assets of \$66.5 million. The decreases in accounts receivable and deferred profit were the result of decreased net sales volume.

Net cash used in investing activities was \$1,026.7 million during the year ended December 31, 2001. During this period, Novellus' cash outflows consisted primarily of \$942.4 million in net purchases of restricted investments, an issuance of a \$244.7 million lease receivable in order for the Company to participate in its operating leases, and \$80.0 million in capital expenditures. These cash outflows were offset by net sales and maturities of available-for-sale securities of \$247.8 million.

At December 31, 2001, Novellus does not have any significant property and equipment commitments. The Company will continue to participate in its synthetic leases in 2002 and believes the obligations under the agreements will result in an additional cash outlay of approximately \$90.0 million. See further discussion below.

During the year ended December 31, 2001, net cash provided by financing activities was \$910.8 million due primarily to \$862.4 million in net proceeds from the issuance of the Liquid Yield OptionTM Notes ("LYONs") and \$45.5 million from common stock option exercises and purchases of common stock under Novellus' employee stock purchase plans.

The following is a table summarizing Novellus' significant commitments as of December 31, 2001 (in thousands):

	Total Amount Committed	Commitment Expiration			
		Less than 1 year	1 - 3 years	3 - 5 years	Over 5 years
Operating leases	\$ 35,739	\$ 7,979	\$ 15,210	\$ 12,447	\$ 103
Lines of credit	26,179	26,179	—	—	—
Convertible subordinated debentures	880,000	880,000	—	—	—
	<u>\$ 941,918</u>	<u>\$ 914,158</u>	<u>\$ 15,210</u>	<u>\$ 12,447</u>	<u>\$ 103</u>

Novellus leases nearly all of its facilities under operating leases, including synthetic leases, which expire at various dates through 2010. A synthetic lease is a form of operating lease wherein a third party lessor funds 100% of the acquisition and construction costs relating to one or more properties to be leased to a lessee. The lessor is the owner of the leased property and must provide at least 3% of the required funds in the form of at-risk equity. The lessor generally borrows the balance of the funds necessary to fund the acquisition and construction. Under certain of Novellus' synthetic lease agreements, the Company is obligated to lend approximately 87% of the cost of the leased asset to the lessor upon completion of construction.

The leases with this requirement are known as defeased or self-funded transactions. Additionally, Novellus' synthetic leases require the Company to maintain collateral for the benefit of the lessor.

The San Jose lease agreement covers 13 properties including land located in and around San Jose, California, including manufacturing, research and development, and administrative facilities, as well as Novellus' corporate headquarters. The lease has a term of five years beginning in September 2001 and includes properties which had a total aggregate fair value of approximately \$294.6 million in September 2001, assuming full completion. The lease agreement requires the lessor to provide 3% at-risk equity throughout the term of the lease. Approximately 97% of the lessor's financing was in the form of debt, including \$244.7 million which was loaned by Novellus. The Company's receivable from the lessor is included in notes receivable in the accompanying consolidated balance sheet. Novellus has also provided \$47.8 million in collateral to cover the remainder of the lessor's financing. Of this amount, \$13.5 million is held by the lessor and \$34.3 million is held by a collateral agent unrelated to the lessor.

Under the lease agreement, Novellus has the right to purchase the properties at any time prior to the expiration date of the lease for an amount that equals the total lease financing amount plus any current rent due and payable. At the end of the lease term, Novellus may renew the lease for up to three additional years (with the lessor's consent), refinance the lease, purchase the properties under a purchase option, or arrange to sell the properties to a third party. If Novellus chooses the sale option, it will be obligated to the lessor under a residual value guarantee for market value declines in the value of the facility as of the date of the sale. The aggregate residual value guarantee related to the San Jose properties is approximately \$259.4 million, assuming full completion. At December 31, 2001, the residual value guarantee represents an off-balance sheet contingent liability, for which Novellus does not believe that it has any significant exposure.

Rent payments under the lease agreement are based on the net outstanding lease balance which includes the cost of the leased properties less the amount defeased by the Company multiplied by the London Interbank Offer Rate (LIBOR) plus an applicable margin. As of December 31, 2001, the net outstanding lease balance and the amount defeased by Novellus was \$278.9 million and \$244.7 million respectively. Rent expense and interest income on the defeased portion of the lease balance include \$2.7 million of imputed interest at a rate of 3% to 4% for the period from lease inception to December 31, 2001. Novellus' lease receivable from the lessor is non-interest bearing and is repayable in full only if the Company chooses the sale option at the end of the lease term and successfully sells the properties for amounts in excess of the cost. Novellus' collateral is available to the lessor upon default, with certain exceptions.

On April 18, 2001, Novellus entered into a synthetic lease agreement for the development of a manufacturing, research and development, and administrative facility to be constructed on 23 acres of land owned by Novellus in Tualatin, Oregon. The land has been leased to the lessor for 50 years. Under the Tualatin agreement, the lessor has agreed to finance a maximum of \$170.0 million to develop the facility. During the construction phase, the costs of construction, including the interest on outstanding lease balances are capitalized into the financing facility. Novellus is required to provide treasury bills as collateral equal to 111% of the outstanding lease balance as security for its obligations under the lease. At December 31, 2001, collateral of \$82.1 million was held by the lessor. The collateral is interest bearing at a market rate of interest, which was 2.27% at December 31, 2001. The lessor's ability to take possession of the collateral, which is on deposit with a third party custodian, is subject to provisions in the lease.

Upon completion of construction, the Company is obligated to defease 86% of the outstanding lease balance in the form of a non-interest bearing loan to the lessor and to provide cash collateral for the remaining 14%. Both the lease receivable and the collateral will be classified as noncurrent assets. Rent payments, based on the net outstanding lease balance are expected to begin in May 2002 upon completion of construction. Rent expense and interest income will be imputed on the defeased portion of the lease.

Novellus has the right to purchase the property at any time prior to the expiration date of the lease for an amount that equals the total lease financing amount plus any current rent amount due and payable. At the end of the five-year lease term, Novellus may renew the lease for up to three additional years (with the lessor's consent), purchase the property under its purchase option for an amount equal to the total lease financing amount, or arrange to sell the property to a third party. If Novellus chooses the sale option, it will be obligated to the lessor under a residual value guarantee for market value declines in the value of the property as of the date of sale of up to \$146.2 million. During construction, Novellus' maximum obligation to the lessor is generally limited to 89.9% of the construction costs incurred to date.

If the Company purchases the San Jose and Tualatin facilities at the end of the lease term or due to default, the purchase

transactions would increase property and equipment by approximately \$464.6 million. Novellus' lease receivable would be returned to the Company as cash or used to offset the purchase price of the properties. As a result of the purchase, depreciation expense would increase by approximately \$30.0 million to \$35.0 million per year, and rent expense and interest income would each decrease by approximately \$15.0 million per year based on current interest rates. If, at the end of the lease term or due to default, the Company purchases the properties, the Company believes there would be no material impact on its liquidity as the cash paid to purchase the properties would be offset by the lease receivable and collateral associated with Novellus' participation in these leases.

The synthetic lease agreements contain certain restrictive covenants, which include quick ratio and tangible net worth tests. The Company was in compliance with these covenants at December 31, 2001. If the Company did not comply with these covenants, the lessor could potentially terminate the leases, resulting in an acceleration of the sale or purchase options.

Novellus' intention is to refinance and continue to defease its existing synthetic leases at the end of the lease terms. For further discussion, see Notes to Consolidated Financial Statements, "Commitments."

Novellus has lines of credit with four Japanese banks, which expire at various dates through May 2002, under which the Company can borrow up to \$33.3 million at the banks' prime rates (ranging from 0.48% to 0.85% at December 31, 2001). These facilities are available to Novellus' Japanese subsidiary, Novellus Systems Japan. At December 31, 2001, \$26.2 million was outstanding under these bank lines of credit. During the second quarter of 1997, Novellus entered into a five-year \$125.0 million Senior Credit Facility structured as an unsecured revolving credit line. Novellus cancelled the Senior Credit Facility on June 8, 2001.

On July 26, 2001, Novellus issued \$880.0 million of Liquid Yield Option™ Notes ("LYONs") due July 26, 2031. The net proceeds after issuance costs (which will be amortized over 30 years) from the LYONs offering were \$862.4 million. The LYONs are zero coupon, zero-yield subordinated debentures that may be converted into shares of Novellus common stock, subject to specified conditions as set forth in the indenture. The LYONs are convertible into 13.09504 shares of Novellus common stock per \$1,000 LYON, or 11.5 million shares and 8.0% of all outstanding shares as of December 31, 2001 if (1) the sales price of Novellus common stock reaches a specified threshold, (2) the LYONs are called for redemption, or (3) specified corporate transactions have occurred, subject to antidilutive adjustments.

On July 26, 2002, the security holders have the option to deliver the LYONs to Novellus and require the Company to repurchase the LYONs for \$1,000 in cash each, up to a maximum of \$880.0 million for all outstanding LYONs. Additionally, security holders also have the option to require the Company to repurchase the LYONs on July 26, 2006, 2011, 2016, 2021, and 2026. On those repurchase dates in 2006 and thereafter, Novellus has the ability to determine whether the repurchase of the LYONs will be for cash or common stock or a combination of cash and common stock.

Novellus deposited U.S. treasury securities into a pledge account to secure Novellus' obligations under the LYONs until July 26, 2002. These securities are reflected on Novellus' balance sheet as restricted short-term investments. At December 31, 2001, restricted short-term investments related to this obligation were approximately \$866.0 million to secure the obligations under the LYONs on July 26, 2002. If on July 26, 2002, the LYONs are delivered to Novellus, the \$866.0 million could be used to repurchase the LYONs and any remaining unamortized issuance costs, approximately \$17.0 million as of July 26, 2002, would be written off as other expense. Upon expiration of the obligations under the pledge account, Novellus intends to use the net proceeds of the offering, if any, for general corporate purposes. Additionally, Novellus has the option of redeeming the LYONs on July 26, 2006, 2011, 2016, 2021, and 2026 for cash or common stock or a combination of cash and common stock. For further discussion, see Notes to Consolidated Financial Statements, "Convertible Subordinated Debentures."

Novellus believes that its current cash position, cash generated through operations and equity offerings, and available borrowings will be sufficient to meet the Company's needs through at least the next twelve months.

Trends, Risks, and Uncertainties

Set below and elsewhere in this Annual Report, including in Item 7, Management's Discussion and Analysis, and in other documents Novellus files with the Securities and Exchange Commission are risks and uncertainties that could cause actual results to differ materially from the results contemplated by the forward-looking statements contained in this Annual Report.

Market Risk and Cyclical Downturns in the Semiconductor Industry. Novellus' business depends predominantly on capital expenditures of semiconductor manufacturers, which in turn depends on the current and anticipated market demand for integrated circuits and products utilizing integrated circuits. The semiconductor industry has historically been very cyclical and has experienced periodic downturns, which have had a material adverse effect on the semiconductor industry's demand for semiconductor processing equipment, including equipment manufactured and marketed by Novellus. During periods of reduced and declining demand, Novellus must be able to quickly and effectively align its cost structure with prevailing market conditions, and motivate and retain key employees. During periods of rapid growth, Novellus must be able to acquire and/or develop sufficient manufacturing capacity to meet customer demand, and hire and assimilate a sufficient number of qualified people. No assurance can be given that Novellus' net sales and operating results will not be adversely affected if this current downturn in the semiconductor industry continues or other downturns or slowdowns in the rate of capital investment in the semiconductor industry occur in the future.

Demand Shifts in the PC Industry. In the PC market, a shift in demand from more expensive, high-performance products to lower-priced products (sub-\$1,000 PCs) has resulted in reduced profitability for semiconductor manufacturers. Strengthening demand for sub-\$1,000 PCs could cause further delays or decreased demand for Novellus' products.

Intense Competition in the Semiconductor Equipment Industry. The semiconductor equipment industry is highly competitive. Novellus faces substantial competition in the markets in which it competes from both established competitors and potential new entrants. Certain of Novellus' competitors have greater financial, marketing, technical or other resources, broader product lines, greater customer service capabilities and larger and more established sales organizations and customer bases than Novellus. Novellus may also face future competition from new market entrants from overseas and domestic sources. Novellus expects its competitors to continue to improve the design and performance of their products. There can be no assurance that Novellus' competitors will not develop enhancements to or future generations of competitive products that will offer superior price or performance features over Novellus' products, and there can be no assurance that Novellus will be successful, or as successful as its competitors, in selecting, developing, manufacturing, and marketing its new products, or enhancing its existing products. Failure to successfully develop new products could materially adversely affect Novellus' revenues, financial condition, and results of operations. In addition, a substantial investment is required by Novellus' customers to install and integrate capital equipment into a semiconductor production line. As a result, once a semiconductor manufacturer has selected another vendor's capital equipment, Novellus believes that the manufacturer will be generally reliant upon that equipment vendor for the specific production line application. Accordingly, Novellus may experience difficulty in selling a product to a particular customer for a significant period of time if that customer first selects a competitor's product. Increased competitive pressure could lead to lower prices for Novellus' products, thereby adversely affecting Novellus' revenue and operating results. There can be no assurance that Novellus will be able to compete successfully against established competitors and new entrants in the future.

International Operations. Export sales accounted for approximately 55%, 63%, and 62%, of net sales in 2001, 2000, and 1999, respectively. Novellus anticipates that export sales will account for a significant portion of net sales in the foreseeable future. As a result, a significant portion of Novellus' sales will be subject to certain risks, including tariffs and other barriers, difficulties in staffing and managing foreign subsidiary operations, difficulties in managing distributors, potentially adverse tax consequences and the possibility of difficulty in accounts receivable collection. Novellus is also subject to the risks associated with the imposition of legislation and regulations relating to the import or export of semiconductor products. Novellus cannot predict whether quotas, duties, taxes, or other charges or restrictions will be implemented by the United States or any other country upon the importation or exportation of Novellus' products in the future. There can be no assurance that any of these factors or the adoption of restrictive policies will not have a material adverse effect on Novellus' business, financial condition, or results of operations. Moreover, each region in the global semiconductor equipment market exhibits unique characteristics that can cause capital equipment investment patterns to vary significantly from period to period. Although international markets provide Novellus with significant growth opportunities, periodic economic downturns, trade balance issues, political instability and fluctuations in interest and foreign currency exchange rates are all risks that could materially and adversely affect global products and service demand, and, therefore, Novellus' business operations and financial condition. Asian countries, particularly Japan and Korea, are affected by banking, currency and other difficulties that contribute to the economic developments in those countries. Novellus derives a substantial portion of its revenues from customers in Asian countries, particularly Japan and Korea. Economic developments in late 1997 and early 1998 resulted in decreased capital investments by Asian customers. Recent economic developments indicate that the economies of Japan, Korea, and other Asian countries have recovered somewhat from 1997 and 1998 levels. Any negative economic developments or delays in the economic recovery of Asian countries could result in the cancellation or delay of orders for Novellus' products from Asian customers, thus materially adversely affecting Novellus' business, financial

condition or results of operations. In addition to the concerns described above, sales of systems shipped by Novellus' Japanese subsidiary are denominated in Japanese Yen. Novellus sells the systems to its Japanese subsidiary in U.S. Dollars. Novellus then enters into forward foreign exchange contracts to hedge against the short-term impact of foreign currency fluctuations of intercompany accounts payable denominated in U.S. Dollars recorded by the Japanese subsidiary in order to manage this exposure. However, there can be no assurance that future changes in the Japanese Yen will not have a material effect on Novellus' business, financial condition, or results of operations.

Possible Volatility of Stock Price. The price of Novellus' common stock may be subject to wide fluctuations and possible rapid increases or declines in a short time period. These fluctuations may be due to factors specific to the Company such as variations in quarterly operating results or changes in analysts' earnings estimates, or to factors relating to the semiconductor industry or to the securities markets in general, which, in recent years, have experienced significant price fluctuations. These fluctuations often have been unrelated to the operating performance of the specific companies whose stocks are traded. Shareholders should be willing to incur the risk of such fluctuations. Sales of substantial amounts of common stock in the public market after any offering of Novellus' securities could adversely affect the market price of the outstanding common stock. Additionally, the price of Novellus' stock could be adversely affected if Novellus is required to redeem the LYONs using its common stock. Under certain circumstances, including a change of control in Novellus or an increase in Novellus' stock price, the holders of the LYONs may surrender their LYONs to Novellus for conversion into the Company's common stock. The LYONs are convertible into 13.09504 shares of Novellus' stock per each \$1,000 LYON, or a total of 11.5 million shares and 8.0% of all outstanding shares of Novellus common stock as of December 31, 2001. For further discussion, see Notes to Consolidated Financial Statements, "Convertible Subordinated Debentures." Shareholders should be willing to incur the risk of such fluctuations in the price of Novellus' common stock.

Variability of Quarterly Operating Results. If Novellus' operating results are below the expectations of public market analysts or investors, then the market price of its common stock could decline. Novellus has experienced and expects to continue to experience significant fluctuations in its quarterly operating results. During each quarter, Novellus customarily sells a relatively small number of systems that typically sell for prices in excess of \$1 million. Novellus' backlog at the beginning of each quarter does not necessarily include all system sales needed to achieve expected net sales for that quarter. Consequently, Novellus is often dependent on obtaining orders for shipment in the same quarter that the order is received. Because Novellus builds its systems according to forecast, the absence of significant backlog for an extended period of time could hinder Novellus' ability to plan production and inventory levels, which could adversely affect operating results. Novellus' net sales and operating results could also be adversely affected for a particular quarter if an anticipated order for even a few systems is not received in time to permit shipment during that quarter. Moreover, customers may reschedule or cancel shipments, with, in the case of cancellations, little or no penalties, and production difficulties could delay shipments. A delay in a shipment in any quarter, due, for example, to an unanticipated shipment rescheduling, to cancellations by customers or to unexpected manufacturing difficulties experienced by Novellus may cause net sales in such quarter to fall significantly below expectations and may materially adversely affect Novellus' operating results for such quarter. The timing of new product announcements and releases by Novellus may also contribute to fluctuations in quarterly operating results, particularly in cases where new product offerings cause customers to defer ordering products from Novellus' existing product lines. Novellus' results of operations also could be affected by new product announcements and releases by Novellus' competitors, the volume, mix and timing of orders received during a period, availability and pricing of key components, fluctuations in foreign exchange rates, and conditions in the semiconductor equipment industry. Novellus' operating results also fluctuate based on gross profit realized on system sales. Gross profit as a percentage of net sales may vary based on a variety of factors, including the mix and average selling prices of products sold and costs to manufacture upgrades and customize systems. Because Novellus' operating expenses are based on anticipated net sales levels, and a high percentage of those expenses are relatively fixed, a variation in the timing of recognition of net sales and the level of gross profit from a single transaction can cause material variations in operating results from quarter to quarter.

Benefits of Novellus' Acquisition of GaSonic May Not Be Realized. The integration of Novellus and GaSonic is not fully complete and continues to be a complex, time consuming, and expensive process. The challenges involved in this integration include the following: satisfying the needs of the combined company's customers in a timely and efficient manner and maintaining GaSonic's and Novellus' key customer relationships; persuading employees that Novellus' and GaSonic's business cultures are compatible and retaining the combined company's key management, marketing, customer support, and technical personnel; maintaining management's ability to focus on anticipating, responding to or utilizing changing technologies in the semiconductor industry; combining GaSonic's product offerings and technologies with Novellus' product offerings and technologies effectively and quickly and coordinating research and development activities to enhance introduction of new products and technologies; maintaining GaSonic's key supplier relationships; and the introduction of new

technologies by competitors to the marketplace which reduce GaSonics' market share prior to the successful integration of the two companies. It is not certain that Novellus and GaSonics can be successfully integrated in a timely manner or at all or that any of the anticipated benefits will be realized. Failure to do so could materially harm the business and operating results of the combined company. Also, neither Novellus nor GaSonics can assure you that the growth rate of the combined company will equal the historical growth rates experienced by Novellus and GaSonics. Novellus and GaSonics employees may experience uncertainty about their future role with the combined company until or after strategies with regard to the combined company are announced or executed. This may adversely affect the combined company's ability to attract and retain key management, marketing, sales, customer support, and technical personnel, which could harm the combined company. The combined entity incurred merger costs related to the acquisition in the amount of \$13.2 million during the year ended December 31, 2001, which included professional fees, financial printing, and other related costs, as well as charges related to the cancellation of various contracts and the write-off of certain redundant assets. There is no assurance that the combined company will not incur additional material charges in subsequent quarters to reflect additional costs associated with the merger.

A Large Portion of Novellus' Net Sales Is Derived From Sales to A Few Customers. Historically, Novellus has sold a significant proportion of its systems in any particular period to a limited number of customers. Sales to Novellus' ten largest customers in 2001, 2000, and 1999 accounted for 61%, 71%, and 71% of net sales, respectively. Novellus expects that sales of its products to relatively few customers will continue to account for a high percentage of its net sales in the foreseeable future. None of Novellus' customers have entered into a long-term agreement requiring them to purchase Novellus' products. Novellus believes that sales to certain of its customers will decrease in the near future as those customers complete current purchasing requirements for new or expanded fabrication facilities. Although the composition of the group comprising Novellus' largest customers has varied from year to year, the loss of a significant customer or any reduction in orders from any significant customer, including reductions due to customer departures from recent buying patterns, market, economic or competitive conditions in the semiconductor industry or in the industries that manufacture products utilizing integrated circuits, could adversely affect Novellus' business, financial condition and results of operations. In addition, sales of Novellus' systems depend in significant part upon the decision of a prospective customer to increase manufacturing capacity or to expand current manufacturing capacity, both of which typically involve a significant capital commitment. Novellus has from time to time experienced delays in finalizing system sales following initial system qualification. Due to these and other factors, Novellus' systems typically have a lengthy sales cycle during which Novellus may expend substantial funds and management effort with no guarantee that Novellus will sell a particular system.

Novellus' Industry Is Characterized By Rapidly Changing Technology. The semiconductor manufacturing industry is subject to rapid technological change and new product introductions and enhancements. Novellus' ability to remain competitive in this market depends in part upon Novellus' ability to develop new and enhanced systems and to introduce these systems at competitive prices and on a timely and cost-effective basis. Accordingly, Novellus devotes a significant portion of its personnel and financial resources to research and development programs and seek to maintain close relationships with its customers to remain responsive to their product needs. Novellus' current research and development efforts are directed at the development of new systems and processes and improving existing system capabilities. Novellus is focusing its research and development efforts on additional Concept Two modules, advanced PVD systems, advanced gap fill technology, primary conductor metals, low-K dielectric materials and additional advanced technologies for the next generation of smaller geometry fabrication lines, as well as equipment to process 300mm wafers. There is no assurance that Novellus' research and development programs will allow Novellus to remain responsive to its customers' product needs or that Novellus' current or new customers will buy its new products.

Research and Development Expenditures Represent a Substantial Portion of Novellus' Net Sales. Novellus' expenditures for research and development during 2001, 2000, and 1999 were \$272.0 million, \$198.3 million, and \$129.1 million respectively, or approximately 20%, 15%, and 20% of net sales. Novellus expects in future years that research and development expenditures will continue to represent a substantial percentage of its net sales. Novellus' success in developing, introducing and selling new and enhanced systems depends upon a variety of factors, including product selection, timely and efficient completion of product design and development, timely and efficient implementation of manufacturing and assembly processes, product performance in the field and effective sales and marketing. There can be no assurance that Novellus will be successful in selecting, developing, manufacturing and marketing new products or in enhancing its existing products. As is typical in the semiconductor capital equipment market, Novellus has experienced delays from time to time in the introduction of, and certain technical and manufacturing difficulties with, certain of its systems and enhancements and may experience delays and technical and manufacturing difficulties in future introductions or volume production of new systems or enhancements. Novellus' inability to complete the development or meet the technical specifications of any of its new systems

or enhancements or to manufacture and ship these systems or enhancements in volume in a timely manner would materially adversely affect Novellus' business, financial condition and results of operations. In addition, Novellus may incur substantial unanticipated costs to ensure the functionality and reliability of its future product introductions early in the product's life cycle. If new products have reliability or quality problems, reduced orders or higher manufacturing costs, delays in collecting accounts receivable and additional service and warranty expense may result. Any of these events could materially adversely affect Novellus' business, financial condition, and results of operations.

Novellus' Intellectual Property Is Critical To The Success Of Its Business. Novellus intends to continue to pursue the legal protection of its technology primarily through patent and trade secret protection. Novellus currently holds over 100 patents and intends to file additional patent applications as appropriate. There can be no assurance that patents will be issued from any of these pending applications or that any claims allowed from existing or pending patents will be sufficiently broad to protect Novellus' technology. While Novellus intends to protect its intellectual property rights vigorously, there can be no assurance that any patents held by Novellus will not be challenged, invalidated or circumvented, or that the rights granted thereunder will provide competitive advantages to Novellus. Novellus also relies on trade secrets and proprietary technology that it seeks to protect, in part, through Novellus' confidentiality agreements with employees, consultants and other parties. There can be no assurance that these agreements will not be breached, that Novellus will have adequate remedies for any breach, or that Novellus' trade secrets will not otherwise become known to or independently developed by others. There has also been substantial litigation regarding patent and other intellectual property rights in semiconductor related industries. Novellus is currently involved in such litigation (see Item 3. Legal Proceedings). Except as set forth in "Item 3. Legal Proceedings," Novellus is not aware of any significant claim of infringement by Novellus' products of any patent or proprietary rights of others, however, Novellus could become involved in additional litigation in the future. Although Novellus does not believe the outcome of the current litigation will have a material impact on its business, financial condition, or results of operations, no assurances can be given that this litigation or future litigation will not have such an impact. In addition to the current litigation, Novellus' operations, including the further commercialization of Novellus' products, could provoke additional claims of infringement from third parties. In the future, litigation may be necessary to enforce patents issued to Novellus, to protect trade secrets or know-how owned by Novellus or to defend Novellus against claimed infringement of the rights of others and to determine the scope and validity of the proprietary rights of others. Any such litigation could result in substantial cost and diversion of effort by Novellus, which by itself could have a material adverse effect on Novellus' financial condition and operating results. Further, adverse determinations in such litigation could result in Novellus' loss of proprietary rights, subject Novellus to significant liabilities to third parties, require Novellus to seek licenses from third parties or prevent Novellus from manufacturing or selling its products, any of which could have a material adverse effect on Novellus' business, financial condition and results of operations.

Novellus Is Susceptible To Supply Shortages. Novellus uses numerous suppliers to supply parts, components, and sub-assemblies for the manufacture and support of its products. Although Novellus makes reasonable efforts to ensure that such parts are available from multiple suppliers, this is not always possible. Accordingly, Novellus obtains certain key parts from a single supplier or a limited group of suppliers. These suppliers are, in some cases, thinly capitalized, independent companies that generate significant portions of their business from Novellus and/or a small group of other companies in the semiconductor industry. Although Novellus seeks to reduce its dependence on these limited source suppliers, disruption or termination of certain of these sources could occur and such disruptions could have at least a temporary adverse effect on Novellus' operations. Moreover, a prolonged inability to obtain certain components could have a material adverse effect on Novellus' business, financial condition, and results of operations and could result in damage to its customer relationships.

Concentration of Credit Risk. Novellus uses financial instruments that potentially subject it to concentrations of credit risk. Such instruments include cash equivalents, short-term investments, accounts receivable, and financial instruments used in hedging activities. The Company invests its cash in cash deposits, money market funds, commercial paper, certificates of deposit, readily marketable debt securities, or medium-term notes. The Company places its investments with high-credit-quality financial institutions and limits the credit exposure from any one financial institution or instrument. To date, Novellus has not experienced material losses on these investments. Novellus performs ongoing credit evaluations of its customers' financial condition and generally requires no collateral. The Company has an exposure to nonperformance by counterparties on the foreign exchange contracts used in hedging activities. These counterparties are large international financial institutions and to date, no such counterparty has failed to meet its financial obligations to Novellus. Novellus does not believe there is a significant risk of nonperformance by these counterparties because the Company continuously monitors its positions and the credit ratings of such counterparties and the amount of contracts it enters into with any one party. However, there can be no assurance that there will be no significant nonperformance by these counterparties and that this would not materially adversely affect Novellus' business, financial condition, and results of operations.

Recent Accounting Pronouncements May Impact Novellus' Financial Position and Results of Operations. Novellus must adopt the following recent changes in financial accounting standards. In June 2001, the Financial Accounting Standards Board ("FASB") issued Statement of Financial Accounting Standards No. 141 ("SFAS 141"), "Business Combinations". In June 2001, the FASB issued SFAS 142, "Goodwill and Other Intangible Assets". In August 2001, the FASB issued SFAS 144, "Impairment or Disposal of Long-Lived Assets", which is effective for fiscal years beginning after December 15, 2001. The Company does not expect the adoption of SFAS 141, the performance of the first of the required impairment tests of goodwill and indefinite lived intangible assets under SFAS 142, or the adoption of SFAS 144 to have a material effect on its financial condition or results of operations. In July 2001, the FASB issued SFAS 143, "Accounting for Asset Retirement Obligations". The Company is currently assessing the impact of this new standard, however, Novellus does not expect the effect of these tests to be material to its financial condition or results of operations. On February 27, 2002, the FASB met and discussed changes to their consolidations project that could substantially change the accounting for synthetic leases. If these changes are enacted, Novellus may be required to treat the assets subject to the synthetic leases as purchased assets. For a further discussion of how these recent accounting pronouncements may affect Novellus, please see Item 7, Management's Discussion and Analysis and the Notes to the Consolidated Financial Statements. There can be no assurances that the issuance by FASB of additional statements of financial accounting standards would not materially adversely affect Novellus' business, financial condition, and results of operations if such are required to be adopted by Novellus in the future.

Euro Conversion. On January 1, 1999, 11 member countries of the European Union established fixed conversion rates between their existing sovereign "legacy" currencies, and adopted the Euro as their new common legal currency. As of that date, the Euro began trading on currency exchanges while the legacy currencies remained legal tender in the participating countries for a transition period between January 1, 1999 and January 1, 2002. As of January 1, 2002, the transition to the Euro was completed. Novellus maintains operations within the European Union and prepared for the Euro conversion and the costs associated with the transition were not material. Based on current information, Novellus does not believe that the Euro conversion will have a material adverse effect on the Company's business, financial condition, or results of operations.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest Rate Risk. Novellus' exposure to market risk for changes in interest rates relates primarily to the Company's investment portfolio and short-term debt obligations. Novellus does not use derivative financial instruments in its investment portfolio. The Company places its investments with high credit quality issuers and, by policy, limits the amount of credit exposure to any one issuer. Novellus does not have any interest rate exposure related to the LYON debt as the debt is zero-coupon and was issued at par. The Company recognizes a small amount of interest expense due to the amortization of issuance costs.

Novellus mitigates default risk by investing in only the safest and highest credit quality securities and by monitoring the credit rating of investment issuers. The portfolio includes only marketable securities with active secondary or resale markets to ensure portfolio liquidity.

Novellus has no material cash flow exposure due to rate changes for cash equivalents and short-term investments. Novellus' short-term borrowing is at a fixed interest rate. Short-term borrowing is used by Novellus' Japanese subsidiary for general corporate purposes, including capital expenditures and working capital needs.

The table below presents principal amounts and related weighted average interest rates by year of maturity for Novellus' investment portfolio and debt obligations and the fair value of each as of December 31, 2001 and 2000.

In thousands	2002	2003	2004	2005	2006	Thereafter	Total	Fair Value December 31, 2001
Assets								
Cash equivalents	\$ 550,640	—	—	—	—	—	\$ 550,640	\$ 550,640
Average interest rate	1.96%	—	—	—	—	—	1.96%	
Short-term investments	\$ 364,716	\$ 6,466	—	—	—	—	\$ 371,182	\$ 371,182
Average interest rate	3.28%	4.84%	—	—	—	—	3.31%	
Restricted investments	\$ 961,643	—	—	—	—	—	\$ 961,643	\$ 961,643
Average interest rate	3.34%	—	—	—	—	—	3.34%	
Total investment securities	\$ 1,876,999	\$ 6,466	—	—	—	—	\$ 1,883,465	\$ 1,883,465
Average interest rate	2.93%	4.84%	—	—	—	—	2.94%	
Short-term borrowing	\$ 26,179	—	—	—	—	—	\$ 26,179	\$ 26,179
Average interest rate	0.62%	—	—	—	—	—	0.62%	
Convertible debentures	\$ 880,000	—	—	—	—	—	\$ 880,000	\$ 876,700
Average interest rate	0.00%	—	—	—	—	—	0.00%	

In thousands	2001	2002	2003	2004	2005	Thereafter	Total	Fair Value December 31, 2000
Assets								
Cash equivalents	\$ 589,415	—	—	—	—	—	\$ 589,415	\$ 589,415
Average interest rate	6.52%	—	—	—	—	—	6.52%	
Short-term investments	\$ 611,515	\$ 10,937	\$ 7,797	—	—	—	\$ 630,249	\$ 630,249
Average interest rate	6.28%	4.71%	4.81%	—	—	—	6.24%	
Total investment securities	\$ 1,200,930	\$ 10,937	\$ 7,797	—	—	—	\$ 1,219,664	\$ 1,219,664
Average interest rate	6.40%	4.71%	4.81%	—	—	—	6.37%	
Short-term borrowing	\$ 21,602	—	—	—	—	—	\$ 21,602	\$ 21,602
Average interest rate	0.99%	—	—	—	—	—	0.99%	

Novellus has operating lease agreements on several properties. The agreements are for five years with interest rates that approximate the London Interbank Offering Rate (LIBOR). Rent expense was approximately \$16.9 million, \$20.1 million, and \$20.4 million for the years ended December 31, 2001, 2000, and 1999, respectively, net of sublease income of \$7.2 million, \$8.1 million, \$3.0 million for the years then ended.

Excluded from the 2001 disclosure above is \$279.0 million of collateralized cash recorded within other assets and as a note receivable, related to Novellus' participation in its synthetic leases. This amount consists of \$34.3 million in restricted investments and \$244.7 million in a note receivable, which have insignificant or no market risk. Market risk is not associated with these instruments as interest is imputed for financial reporting and disclosure purposes. For further discussion, see Notes to Consolidated Financial Statements, "Commitments."

Foreign Currency Risk. Novellus transacts business in various foreign countries. Its primary foreign currency cash flows are in countries in Asia and Europe. During 2001 and 2000, Novellus employed a foreign currency hedging program utilizing foreign currency forward exchange contracts and certain foreign currency denominated balance sheet positions. Under this program, increases or decreases in currency commitments and balance sheet positions, as translated into U.S. dollars, are primarily offset by realized gains and losses on the hedging instruments. The goal of the hedging program is to economically guarantee or lock in exchange rates on Novellus' foreign currency cash outflows and to minimize the impact to the Company of foreign currency fluctuations. Novellus does not use foreign currency forward exchange contracts for speculative or trading purposes.

All unsettled foreign currency contracts held by Novellus are marked-to-market and realized and unrealized gains and losses are included as a component of other income and expense. The following table provides information as of December 31, 2001 and 2000 about Novellus' derivative financial instruments, which are comprised of foreign currency forward exchange contracts. The information is provided in U.S. dollar equivalent amounts, as presented in Novellus' financial statements. The table presents the notional amounts (at the contract exchange rates), the weighted-average contractual foreign currency exchange rates, and the estimated fair value of those contracts.

December 31, 2001	Notional Amount	Average	Estimated Fair
In thousands, except for average contract rate	(Buy) Sell	Contract Rate	Value-Gain (Loss)
Foreign currency forward exchange contracts:			
Japanese yen	\$ 72,930	115.55	\$ 8,626
British pound	(1,949)	0.69	(16)
Euro	(660)	1.14	4
Singapore dollar	(1,970)	1.85	22
Taiwan dollar	(10,598)	35.00	182
Korean won	(2,839)	1,322.00	140
	<u>\$ 54,914</u>		<u>\$ 8,958</u>

December 31, 2000	Notional Amount	Average	Estimated Fair
In thousands, except for average contract rate	(Buy) Sell	Contract Rate	Value-Gain (Loss)
Foreign currency forward exchange contracts:			
Japanese yen	\$ 149,916	103.94	\$ 10,827
British pound	(27)	0.68	—
French franc	(275)	7.21	(6)
Irish punt	(152)	0.87	(3)
German mark	(28)	2.15	(1)
Dutch guilder	(190)	2.42	(4)
Singapore dollar	(231)	1.72	(2)
Taiwan dollar	(5,556)	33.13	13
Korean won	(4,899)	1,221.00	75
	<u>\$ 138,558</u>		<u>\$ 10,899</u>

NOVELLUS SYSTEMS, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except per share data)

Year Ended December 31,	2001	2000	1999
Net sales	\$1,339,322	\$ 1,319,486	\$ 657,021
Cost of sales	647,971	588,593	305,182
Gross profit	691,351	730,893	351,839
Operating expenses:			
Selling, general and administrative	198,567	232,749	137,363
Research and development	272,032	198,310	129,089
Special charges	61,106	6,000	407
Bad debt write-off	7,662	—	—
Total operating expenses	539,367	437,059	266,859
Operating income	151,984	293,834	84,980
Other income (expense)			
Interest income	64,297	58,755	16,973
Interest expense	(1,146)	(2,425)	(1,746)
Other, net	(5,758)	—	—
Other income, net	57,393	56,330	15,227
Income before provision for income taxes and cumulative effect of change in accounting principle	209,377	350,164	100,207
Provision for income taxes	64,907	110,996	31,500
Income before cumulative effect of change in accounting principle	144,470	239,168	68,707
Cumulative effect of change in accounting principle, net of tax	—	(89,788)	—
Net income	\$ 144,470	\$ 149,380	\$ 68,707
Net income per share:			
Basic			
Income before cumulative effect of change in accounting principle	\$ 1.01	\$ 1.76	\$ 0.56
Cumulative effect of change in accounting principle	—	\$ (0.66)	—
Basic net income per share	\$ 1.01	\$ 1.10	\$ 0.56
Diluted			
Income before cumulative effect of change in accounting principle	\$ 0.97	\$ 1.66	\$ 0.54
Cumulative effect of change in accounting principle	—	\$ (0.62)	—
Diluted net income per share	\$ 0.97	\$ 1.04	\$ 0.54
Shares used in basic per share calculations	142,462	135,728	122,261
Shares used in diluted per share calculations	148,924	143,654	127,826
Pro forma amounts with the change in accounting principle related to revenue recognition applied retroactively (unaudited):			
Net revenues	—	—	\$ 582,397
Net income	—	—	39,550
Net income per share:			
Basic	—	—	\$ 0.32
Diluted	—	—	\$ 0.31

See accompanying notes.

NOVELLUS SYSTEMS, INC.
CONSOLIDATED BALANCE SHEETS
(in thousands)

December 31,	2001	2000
Assets		
Current assets:		
Cash and cash equivalents	\$ 550,640	\$ 589,415
Short-term investments	371,182	630,249
Restricted short-term investments	961,643	—
Accounts receivable, net of allowance for doubtful accounts of \$14,390 in 2001 and \$5,392 in 2000	225,916	401,291
Inventories	244,712	201,672
Deferred tax assets, net	82,069	137,929
Prepaid and other current assets	81,049	14,279
Total current assets	2,517,211	1,974,835
Property and equipment:		
Machinery and equipment	243,677	212,836
Furniture and fixtures	15,256	11,038
Leasehold improvements	79,264	60,690
Land	8,782	8,782
	346,979	293,346
Less accumulated depreciation and amortization	169,378	141,791
	177,601	151,555
Other assets	70,177	79,084
Note receivable	244,673	—
Total assets	<u>\$ 3,009,662</u>	<u>\$2,205,474</u>
Liabilities and Shareholders' Equity		
Current liabilities:		
Accounts payable	\$ 67,317	\$ 123,023
Accrued payroll and related expenses	34,211	70,211
Accrued warranty	43,337	51,343
Other accrued liabilities	30,411	46,187
Restructuring accrual	26,849	—
Income taxes payable	5,870	57,720
Deferred profit	40,835	193,913
Current obligations under lines of credit	26,179	21,602
Convertible subordinated debentures	862,659	—
Total current liabilities	1,137,668	563,999
Commitments and contingencies		
Shareholders' equity:		
Preferred stock, no par value; Authorized shares – 10,000		
Issued and outstanding shares – none		
Common stock, no par value; Authorized shares – 240,000		
Issued and outstanding shares – 143,606 in 2001 and 140,601 in 2000	1,273,201	1,200,718
Retained earnings	597,267	453,250
Accumulated other comprehensive income (loss)	1,526	(12,493)
Total shareholders' equity	1,871,994	1,641,475
Total liabilities and shareholders' equity	<u>\$ 3,009,662</u>	<u>\$2,205,474</u>

See accompanying notes.

NOVELLUS SYSTEMS, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

Year Ended December 31,	2001	2000	1999
Operating activities			
Net income	\$ 144,470	\$ 149,380	\$ 68,707
Adjustments to reconcile net income to net cash provided by operating activities:			
Non-cash portion of special charges	25,501	—	—
Investment impairment charge	8,556	—	—
Bad debt write-off	7,662	—	—
Adjustment to conform fiscal year end of GaSonic	1,714	—	—
Depreciation and amortization	51,934	46,951	34,825
Deferred compensation	1,451	1,780	—
Cumulative effect of accounting change, net of tax benefit	—	89,788	—
In-process research and development charge	—	6,000	—
Income tax benefits from employee stock plans	25,037	40,247	20,544
Changes in operating assets and liabilities:			
Accounts receivable	167,713	(168,627)	(44,274)
Inventories	(50,079)	(85,287)	(28,811)
Prepaid and other current assets	(66,511)	(5,755)	3,600
Deferred income taxes	55,860	(41,378)	(3,987)
Accounts payable	(55,706)	73,894	14,155
Accrued payroll and related expenses	(36,000)	46,250	6,274
Accrued warranty	(8,006)	29,008	(6,750)
Deferred profit	(153,078)	55,777	—
Other accrued liabilities	11,073	12,437	6,146
Income taxes payable	(54,502)	40,433	8,457
Total adjustments	(67,381)	141,518	10,179
Net cash provided by operating activities	77,089	290,898	78,886
Investing activities			
Purchases of available-for-sale securities	(1,315,253)	(1,268,238)	(486,842)
Proceeds from the sale and maturity of available-for-sale securities	1,563,043	842,386	339,488
Purchases of restricted investments	(978,518)	—	—
Proceeds from the maturity of restricted investments	36,140	—	—
Capital expenditures	(79,965)	(77,704)	(29,617)
(Increase) decrease in other assets	(7,443)	3,092	(29,404)
Participation in a synthetic lease receivable	(244,673)	—	—
Acquisition of Gamma Precision Technology	—	(18,454)	—
Net cash used in investing activities	(1,026,669)	(518,918)	(206,375)
Financing activities			
Proceeds from convertible subordinated debentures	862,400	—	—
Proceeds from employee compensation plans	45,469	42,008	41,801
Proceeds from lines of credit, net	4,577	5,249	1,251
Common stock repurchased	(1,641)	(1,158)	(3,192)
Proceeds from common stock offering, net	—	572,910	255,133
Repayment under long-term debt	—	—	(65,000)
Net cash provided by financing activities	910,805	619,009	229,993
Net increase (decrease) in cash and cash equivalents	(38,775)	390,989	102,504
Cash and cash equivalents at the beginning of the year	589,415	198,426	95,922
Cash and cash equivalents at the end of the year	\$ 550,640	\$ 589,415	\$ 198,426
Supplemental disclosures:			
Cash paid during the year for:			
Interest	\$ 1,146	\$ 2,425	\$ 1,843
Income taxes	\$ 63,201	\$ 69,221	\$ 1,989
See accompanying notes.			

NOVELLUS SYSTEMS, INC.
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY
(in thousands)

	Common Stock Shares	Common Stock Amount	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total Shareholders' Equity
Balance at January 1, 1999	110,865	\$ 213,815	\$ 239,314	\$ (2,256)	\$ 450,873
Proceeds from common stock offering, net	11,580	255,133	—	—	255,133
Shares issued under employee compensation plans	4,220	41,801	—	—	41,801
Income tax benefits realized from activity in employee stock plans	—	20,544	—	—	20,544
Net income	—	—	68,707	—	68,707
Cumulative translation adjustment	—	—	—	3,671	3,671
Comprehensive income	—	—	—	—	72,378
Common stock repurchased	(122)	(69)	(3,123)	—	(3,192)
Balance at December 31, 1999	126,543	531,224	304,898	1,415	837,537
Proceeds from common stock offering, net	10,089	572,910	—	—	572,910
Shares issued under employee compensation plans	3,441	42,008	—	—	42,008
Issuance of restricted stock	219	—	—	—	—
Acquisition of Gamma Precision Technology	341	12,679	—	—	12,679
Amortization of deferred compensation, net of cancellations of restricted stock	(12)	1,780	—	—	1,780
Income tax benefits realized from activity in employee stock plans	—	40,247	—	—	40,247
Net income	—	—	149,380	—	149,380
Net change in unrealized loss on available-for-sale securities	—	—	—	(10,191)	(10,191)
Cumulative translation adjustment	—	—	—	(3,717)	(3,717)
Comprehensive income	—	—	—	—	135,472
Common stock repurchased	(20)	(130)	(1,028)	—	(1,158)
Balance at December 31, 2000	140,601	1,200,718	453,250	(12,493)	1,641,475
Shares issued under employee compensation plans	2,954	45,469	—	—	45,469
Adjustment to conform fiscal year end of GaSonic	57	851	863	—	1,714
Issuance of restricted stock	31	—	—	—	—
Amortization of deferred compensation	—	1,451	—	—	1,451
Income tax benefits realized from activity in employee stock plans	—	25,037	—	—	25,037
Net income	—	—	144,470	—	144,470
Net change in unrealized loss on available-for-sale securities	—	—	—	7,988	7,988
Cumulative translation adjustment	—	—	—	127	127
Other than temporary loss included in net income (net of tax)	—	—	—	5,904	5,904
Comprehensive income	—	—	—	—	158,489
Common stock repurchased	(37)	(325)	(1,316)	—	(1,641)
Balance at December 31, 2001	143,606	\$ 1,273,201	\$ 597,267	\$ 1,526	\$ 1,871,994

See accompanying notes.

NOTE 1 BUSINESS AND NATURE OF OPERATIONS

Nature of Operations

Novellus Systems, Inc. ("Novellus" or the "Company") manufactures, markets, and services semiconductor processing equipment used to deposit thin conductive and insulating films on semiconductor devices, as well as equipment for preparing the device surface prior to these deposition processes. Novellus is a leading supplier of high productivity deposition and surface preparation systems used in the fabrication of integrated circuits. Chemical Vapor Deposition (CVD) systems employ a chemical plasma to deposit all of the dielectric (insulating) layers and certain of the metal (conductive) layers on the surface of a semiconductor wafer. Physical Vapor Deposition (PVD) systems are used to deposit conductive metal layers by sputtering metallic atoms from the surface of a target source via high DC power. Electrofill systems are used for depositing copper conductive layers in a dual damascene design architecture using an aqueous solution.

As more fully described in Note 2, Novellus merged with GaSonic International Corporation ("GaSonic"), a developer and supplier of photoresist and residue removal technologies on January 10, 2001 in a pooling of interests transaction. Consequently, the consolidated financial statements for fiscal 2000 and 1999 have been restated to include the financial position, results of operations, and cash flows of GaSonic. Because of differing year ends, financial information relating to Novellus' fiscal years ended December 31, 2000 and 1999 has been combined with financial information relating to GaSonic' fiscal years ended September 30, 2000 and 1999, respectively. GaSonic' net income for the three months ended December 31, 2000 was not combined with Novellus' net income, but rather was included as an adjustment to shareholders' equity for the year ended December 31, 2001. Revenue and net income of GaSonic for the three-month period ended December 31, 2000 was \$47.7 million and \$0.9 million, respectively. There were no transactions between GaSonic and Novellus prior to the combination.

Critical Accounting Policies and Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires Novellus to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and the related disclosure of contingent assets and liabilities. On an ongoing basis, Novellus evaluates its estimates, including those related to allowance for doubtful accounts, inventories, investments, deferred tax assets, income taxes, warranty obligations, restructuring, and contingencies and litigation. Novellus bases its estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

Novellus believes the following critical accounting policies affect its more significant judgments and estimates used in the preparation of its consolidated financial statements.

Revenue Recognition

Novellus changed its revenue recognition policy effective January 1, 2000, based on guidance provided in SEC Staff Accounting Bulletin No. 101 ("SAB 101"), "Revenue Recognition in Financial Statements" and "SAB 101: Revenue Recognition in Financial Statements-Frequently Asked Questions and Answers (SAB 101 FAQ)." Novellus recognizes revenue when persuasive evidence of an arrangement exists, delivery has occurred or services have been rendered, the seller's price is fixed or determinable, and collectibility is reasonably assured. Certain of Novellus' product sales are accounted for as multiple-element arrangements. If the Company has met defined customer acceptance experience levels with both the customer and the specific type of equipment, then Novellus recognizes equipment revenue upon shipment and transfer of title, with the remainder when it becomes due (generally upon acceptance). All other equipment sales are recognized upon customer acceptance. Revenue related to spare part sales is recognized on shipment. Revenue related to maintenance and service contracts is recognized ratably over the duration of the contracts. Unearned maintenance and service contract revenue is not significant and is included in accrued liabilities.

In accordance with guidance provided in SAB 101 and SAB 101 FAQ, Novellus recorded a non-cash charge of \$89.8 million (after reduction for income taxes of \$48.6 million), or \$0.62 per diluted share, to reflect the cumulative effect of the accounting change as of the beginning of fiscal year 2000. The decrease to net income before the cumulative effect of the

accounting change as a result of the adoption of SAB 101 and SAB 101 FAQ was a decrease of \$98.1 million or \$0.68 per diluted share for fiscal year 2000.

The deferred profit balance as of January 1, 2000 was \$138.4 million. This amount is comprised of equipment that was shipped and previously recorded as revenue but had not been accepted or did not qualify for multiple-element accounting as of December 31, 1999. In addition to deferred revenue, deferred profit includes deferred amounts related to cost of sales and commissions. Related to the \$138.4 million in deferred profit, \$134.2 million was recognized as revenue in fiscal 2000 with the remaining \$4.2 million being recognized in 2001. The unaudited pro forma amounts presented in the income statement were calculated assuming the accounting change was retroactive to prior periods.

Prior to 2000, Novellus' revenue recognition policy was to recognize revenue at the time the customer takes title to the product, generally at the time of shipment. Revenue related to maintenance and service contracts was recognized ratably over the duration of the contracts.

Allowance for Doubtful Accounts

Novellus evaluates its allowance for doubtful accounts based on a combination of factors. In circumstances where the Company is aware of a specific customer's inability to meet its financial obligations to us (e.g. bankruptcy filings, substantial downgrading of credit scores), Novellus records a specific reserve for bad debts against amounts due to reduce the net recognized receivable to the amount Novellus reasonably believes will be collected. For all other customers, Novellus recognizes a reserve for bad debts based on a certain percentage of total revenues, which is based on the Company's historical experience over five years.

Inventory Reserves

Novellus assesses the recoverability of all inventory, including raw materials, work-in-process, finished goods, and spare parts to determine whether adjustments for impairment are required. Inventory which is obsolete or in excess of the Company's forecasted usage is written down to its estimated market value based on assumptions about future demand and market conditions.

Warranty and Installation

Novellus' warranty and installation policy generally states that the company will provide installation services as well as coverage, for a predetermined amount of time, on systems and modules for material and labor to repair and service the equipment. Novellus records the estimated cost of warranty coverage and installation upon system shipment. The estimated cost of warranty and installation coverage is determined by the warranty term as well as the average historical warranty and installation expense for a specific tool.

Investments

The Company classifies its marketable securities as available-for-sale in accordance with the provisions of the Statement of Financial Accounting Standard ("SFAS") No. 115, "Accounting for Certain Investments in Debt and Equity Securities." Securities classified as available-for-sale are reported at fair market value with the related unrealized gains and losses included, net of tax, in accumulated other comprehensive income (loss). Realized gains and losses and declines in value of securities judged to be other than temporary are included in other income. Interest on all securities is included in interest income. Future adverse changes in market conditions or poor operating results of underlying investments could result in losses or an inability to recover the carrying value of the investments that may not be reflected in an investment's current carrying value, thereby possibly requiring impairment charges in the future. The fair values of investments are determined using quoted market prices if available and estimated using discounted cash flows and market interest rates if quoted market prices are not available.

Deferred Tax Assets

Novellus records a valuation allowance to reduce its deferred tax assets to the amount that is more likely than not to be realized. While Novellus has considered future taxable income and ongoing prudent and feasible tax planning strategies in assessing the need for the valuation allowance, in the event Novellus were to determine that it would be able to realize its

deferred tax assets in the future in excess of its net recorded amount, an adjustment to the deferred tax asset would increase income in the period such determination was made.

Restructuring

During 2001, the Company recorded restructuring charges in connection with a plan to restructure Novellus' operations. These accruals were calculated net of estimated future sublease income that Novellus expects to receive once the Company sublets facilities which it has vacated. If the length of time before the Company finds tenants for these facilities or the market rental rates differs significantly from Novellus' estimates, the Company's actual costs will differ from the charge which was initially recorded.

Contingencies and Litigation

The Company makes an assessment of the probability of an adverse judgment resulting from current and threatened litigation. The Company would accrue the cost of an adverse judgment if, in the Company's estimation, the adverse settlement is probable and the Company can reasonably estimate the ultimate cost to the Company. Novellus has made no such accruals at December 31, 2001.

Other Significant Accounting Policies

Basis of Presentation

The accompanying consolidated financial statements include the accounts of Novellus and its wholly owned subsidiaries after elimination of all significant intercompany accounts and transactions.

Certain prior year amounts in the consolidated financial statements and the notes thereto have been reclassified to conform to the 2001 presentation.

Cash and Cash Equivalents

The Company considers all highly liquid debt instruments with insignificant interest rate risk and maturities of ninety days or less to be cash equivalents.

Inventories

Inventories are stated at the lower of cost (first-in, first-out) or market. As of the balance sheet date, inventories consisted of the following (in thousands):

December 31,	2001	2000
Purchased and spare parts	\$199,702	\$ 135,204
Work-in-process	42,717	56,997
Finished goods	2,293	9,471
Total inventory	<u>\$ 244,712</u>	<u>\$ 201,672</u>

Property and Equipment

Property and equipment are stated at cost. Depreciation and amortization are provided mainly on the straight-line method over the following useful lives:

Machinery and equipment	3-10 years
Furniture and fixtures	3-5 years
Buildings	30 years
Leasehold improvements	Shorter of useful life or remaining lease term

Foreign Currency Accounting

For all those foreign operations consolidated as part of Novellus' operations, the local currency is the functional currency. Accordingly, translation gains or losses related to these foreign subsidiaries are included as a component of accumulated other comprehensive income.

Forward Foreign Exchange Contracts

Novellus enters into forward foreign exchange contracts primarily as an economic hedge against the short-term impact of foreign currency fluctuations of intercompany accounts payable denominated in U.S. Dollars recorded by its Japanese subsidiary. Novellus also enters into forward foreign exchange contracts to buy and sell foreign currencies as economic hedges of the parent's intercompany balances denominated in a currency other than the U.S. Dollar. In 2001 and 2000, these hedging contracts were denominated primarily in the Japanese Yen. The maturities of all the forward foreign exchange contracts are generally short-term in nature. Because the impact of movements in currency exchange rates on forward foreign exchange contracts offsets the related impact on the underlying items being hedged, these financial instruments do not subject the Company to speculative risk that would otherwise result from changes in currency exchange rates. All unsettled foreign currency contracts are marked-to-market and realized and unrealized gains and losses are included as a component of other income and expense. Net foreign currency gains and losses have not been significant.

Earnings Per Share

Earnings per share is calculated in accordance with SFAS 128. Basic earnings per share exclude any dilutive effect of employee stock options. Diluted earnings per share includes the dilutive effect of employee stock options.

The following table sets forth the computation of basic and diluted earnings per share (in thousands, except per share amounts):

Year ended December 31,	2001	2000	1999
Numerator:			
Net income	\$ 144,470	\$ 149,380	\$ 68,707
Denominator:			
Denominator for basic earnings per share – weighted-average shares outstanding	142,462	135,728	122,261
Employee stock options	6,462	7,926	5,565
Denominator for diluted earnings per share – adjusted weighted-average shares outstanding	148,924	143,654	127,826
Basic earnings per share	\$1.01	\$ 1.10	\$ 0.56
Diluted earnings per share	\$0.97	\$ 1.04	\$ 0.54

Options to purchase 3,596,000, 519,000 and 429,000 shares of common stock at weighted-average prices of \$46.77, \$55.35, and \$26.22 per share were outstanding during 2001, 2000, and 1999, respectively, but were not included in the computation of diluted net income per common share because the options' exercise price was greater than the average market price of the common shares and, therefore, the effect would be antidilutive.

Advertising Expenses

Novellus expenses advertising costs as incurred. Advertising expenses for 2001, 2000, and 1999 were \$4.7 million, \$9.5 million, and \$5.1 million, respectively.

Concentration of Credit and Other Risks

Novellus uses financial instruments that potentially subject it to concentrations of credit risk. Such instruments include cash equivalents, short-term investments, accounts receivable, and financial instruments used in hedging activities. The Company invests its cash in cash deposits, money market funds, commercial paper, certificates of deposit, readily marketable debt

securities, or medium-term notes. The Company places its investments with high-credit-quality financial institutions and limits the credit exposure from any one financial institution or instrument. To date, Novellus has not experienced significant losses on these investments. Novellus performs ongoing credit evaluations of its customers' financial condition and generally requires no collateral. The Company has an exposure to nonperformance by counterparties on the foreign exchange contracts used in hedging activities. These counterparties are large international financial institutions and to date, no such counterparty has failed to meet its financial obligations to Novellus. Novellus does not believe there is a significant risk of nonperformance by these counterparties because the Company continuously monitors its positions and the credit ratings of such counterparties and the amount of contracts it enters into with any one party. However, there can be no assurance that there will be no significant nonperformance by these counterparties and that this would not materially adversely affect Novellus' business, financial condition, and results of operations.

Other Comprehensive Income (Loss)

The components of accumulated other comprehensive income (loss), net of related tax are as follows (in thousands):

	December 31, 2001	December 31, 2000
Foreign currency translation adjustment	\$ (2,175)	\$ (2,302)
Unrealized gain (loss) on available-for-sale securities, net of tax	3,701	(10,191)
Accumulated other comprehensive income (loss)	<u>\$ 1,526</u>	<u>\$ (12,493)</u>

Employee Stock Plans

Effective January 1, 1996, the Company adopted SFAS 123, "Accounting for Stock-Based Compensation." In accordance with the provisions of SFAS 123, the Company accounts for stock-based employee compensation arrangements under the intrinsic value method prescribed by the Accounting Principles Board Opinion No. 25, "Accounting for Stock Issued to Employees," and provides pro forma disclosures of net income and earning per share as if the fair value method prescribed by SFAS 123 had been applied in measuring employee compensation expense. For further discussion, see Notes to Consolidated Financial Statements, "Employee Benefit Plans."

Recent Accounting Pronouncements

In June 2001, the Financial Accounting Standards Board ("FASB") issued Statement of Financial Accounting Standards No. 141 ("SFAS 141"), "Business Combinations." SFAS 141 requires the purchase method of accounting for all business combinations and eliminates the pooling-of-interests method for business combinations initiated after June 30, 2001. SFAS 141 also includes guidance on the initial recognition and measurement of goodwill and other intangible assets arising from business combinations completed after June 30, 2001. The Company does not expect the adoption of SFAS 141 to have a material effect on its financial condition or results of operations.

In June 2001, the FASB issued SFAS 142, "Goodwill and Other Intangible Assets." SFAS 142 discontinues amortization of goodwill and intangible assets deemed to have indefinite lives and requires such assets to be reviewed at least annually for impairment. SFAS 142 also includes provisions on the identification of intangible assets, reclassification of certain intangibles from previously reported goodwill, and reassessment of the useful lives of existing intangibles. Novellus will apply SFAS 142 beginning in the first quarter of 2002. Application of the non-amortization provisions of SFAS 142 is expected to result in an increase in operating income of \$3.5 million in 2002. Novellus will test goodwill for impairment using the two-step process prescribed in SFAS 142. The first step is to screen for potential impairment, while the second step measures the amount of the impairment, if any. Novellus expects to perform the first of the required impairment tests of goodwill and indefinite lived intangible assets as of January 1, 2002 in the first quarter of 2002. Novellus does not expect the effect of these tests to be material to its financial condition or results of operations.

In July 2001, the FASB issued SFAS 143, "Accounting for Asset Retirement Obligations," which addresses accounting and reporting for obligations associated with the retirement of tangible long-lived assets and the associated asset retirement costs. SFAS 143 is effective for fiscal years beginning after June 15, 2002. The Company is currently assessing the impact of this new standard, however, Novellus does not expect its adoption to be material to its financial condition or results of operations.

In August 2001, the FASB issued SFAS 144, "Impairment or Disposal of Long-Lived Assets", which is effective for fiscal years beginning after December 15, 2001. SFAS 144 supersedes SFAS 121, "Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to be Disposed Of," and provides a single accounting model for impairment of long-lived assets. Novellus does not expect the adoption of SFAS 144 to have a material effect on the Company's financial condition or results of operations.

NOTE 2 BUSINESS COMBINATION

On January 10, 2001, the Company merged with GaSonics. In the transaction, Novellus acquired all outstanding shares of GaSonics in a stock-for-stock merger, with all outstanding shares of GaSonics capital stock converted into approximately 9,240,000 shares of Novellus common stock. In addition, all outstanding options to purchase shares of GaSonics capital stock were automatically converted into options to purchase approximately 1,400,000 shares of Novellus common stock. Merger related expenses of approximately \$13.2 million were recorded in the first quarter of fiscal 2001 and were included in special charges within the statement of operations.

Following is a reconciliation of the amounts of net sales and net income previously reported for the years ended December 31, 2000 and 1999 with restated amounts:

(in thousands)	Novellus	GaSonics	Conforming Adjustments	Combined
<u>December 31, 2000:</u>				
Revenue	\$ 1,173,731	\$ 155,833	\$ (10,078)	\$ 1,319,486
Net income	151,065	14,381	(16,066)	149,380
<u>December 31, 1999:</u>				
Revenue	\$ 592,742	\$ 64,279	—	\$ 657,021
Net income	76,574	(14,082)	6,215	68,707

Conforming adjustments consist of an adjustment to the provision for income taxes for the realization of deferred tax assets in fiscal 1999, rather than in fiscal 2000 and adjustments related to adoption of Staff Accounting Bulletin No. 101, "Revenue Recognition in Financial Statements" as of the beginning of GaSonics fiscal year 2000.

NOTE 3 FINANCIAL INSTRUMENTS

Financial Instruments with Off-Balance Sheet Risk

As part of Novellus' asset and liability management, the Company enters into various types of transactions that involve financial instruments with off-balance sheet risk. Novellus enters into foreign forward exchange contracts in order to manage foreign exchange risk. The notional amounts, carrying amounts, and estimated fair values of Novellus' foreign currency forward exchange contracts are as follows at December 31 (in thousands):

	2001			2000		
	Notional Amount	Carrying Amount	Estimated Fair Value	Notional Amount	Carrying Amount	Estimated Fair Value
Sell foreign currency, primarily						
Japanese yen	\$ 54,914	\$ 8,958	\$ 8,958	\$ 138,558	\$ 10,899	\$ 10,899

The fair value of Novellus' foreign forward exchange contracts are calculated based on quoted market prices or pricing models using current market rates at the end of December 31, 2001 and 2000, respectively.

Available-for-Sale Securities

The following table presents the estimated fair value of Novellus' investments by balance sheet classification at December 31 (in thousands):

	2001	2000
Institutional money market funds	\$ 465,528	\$ 297,485
Commercial paper	81,912	266,152
Eurodollar time deposits	—	8,000
US Government agencies	—	17,778
Municipal securities	3,200	—
Amounts included in cash and cash equivalents	550,640	589,415
Tax-exempt auction rate notes	15,400	85,700
Corporate securities	78,302	49,580
Commercial paper	33,447	460,064
US Government agencies	220,365	12,060
Municipal securities	23,668	22,845
Amounts included in short-term investments	371,182	630,249
Total available-for-sale securities	\$ 921,822	\$ 1,219,664

As of December 31, 2001, Novellus held equity securities with a cost basis of \$8.0 million that had an associated unrealized gain of \$2.9 million. As of December 31, 2000, Novellus had unrealized losses of \$9.8 million on equity securities with a cost basis of \$16.5 million. During Novellus' third quarter of 2001, the Company determined that one of its investments in equity securities had suffered an other than temporary loss and recorded an \$8.6 million charge to other expense to write-down the investment to its fair market value as of September 29, 2001. These securities are classified in the corporate securities line in the fair market value table above. Unrealized gains (losses) on all other securities were not significant as of December 31, 2001 and 2000. All debt securities held at December 31, 2001 are due in less than two years.

Fair Value of Other Financial Instruments

The carrying and estimated fair values of Novellus' other financial instruments were as follows at December 31 (in thousands):

	2001		2000	
	Carrying Value	Estimated Fair Value	Carrying Value	Estimated Fair Value
Restricted investments - current	961,643	961,643	—	—
Restricted investments - noncurrent	34,293	34,293	—	—
Note receivable	244,673	244,673	—	—
Current obligations under lines of credit	26,179	26,179	21,602	21,602
Convertible subordinated debentures	862,659	876,700	—	—

The carrying value of the convertible subordinated debentures is net of related issuance costs. The fair values of Novellus' restricted investments are based on quoted market prices as of December 31, 2001 and 2000. The fair value of Novellus' obligations under lines of credit is based on current rates offered to the Company for similar debt instruments of the same remaining maturities.

NOTE 4 LINES OF CREDIT

Novellus has lines of credit with four Japanese banks, which expire at various dates through May 2002, under which the Company can borrow up to \$33.3 million at the banks' prime rates (ranging from 0.48% to 0.85% at December 31, 2001).

These facilities are available to Novellus' Japanese subsidiary, Novellus Systems Japan. Borrowings by the subsidiary are at the banks' offshore reference rate. At December 31, 2001 and 2000, amounts outstanding were \$26.2 million and \$21.6 million, at annual weighted-average interest rates of 0.62% and 0.86%, respectively. All borrowings under the lines of credit were by Novellus Systems Japan.

NOTE 5 CONVERTIBLE SUBORDINATED DEBENTURES

On July 26, 2001, Novellus issued \$880.0 million of Liquid Yield Option™ Notes ("LYONs") due July 26, 2031. The net proceeds after issuance costs (which will be amortized over 30 years) from the LYONs offering were \$862.4 million. The LYONs are zero coupon, zero-yield subordinated debentures that may be converted into shares of Novellus common stock, subject to specified conditions as set forth in the indenture. The LYONs are convertible into 13.09504 shares of Novellus common stock per \$1,000 LYON, or 11.5 million shares and 8.0% of all outstanding shares as of December 31, 2001, if (1) the sales price of Novellus common stock reaches a specified threshold, (2) the LYONs are called for redemption, or (3) specified corporate transactions have occurred, subject to antidilutive adjustments.

On July 26, 2002, the security holders have the option to deliver the LYONs to Novellus and require the Company to repurchase the LYONs for \$1,000 in cash each, up to a maximum of \$880.0 million for all outstanding LYONs. Additionally, security holders also have the option to require the Company to repurchase the LYONs on July 26, 2006, 2011, 2016, 2021, and 2026. On those repurchase dates in 2006 and thereafter, Novellus has the ability to determine whether the repurchase of the LYONs will be for cash or common stock or a combination of cash and common stock.

Novellus deposited U.S. treasury securities into a pledge account to secure Novellus' obligations under the LYONs until July 26, 2002. These securities are reflected on Novellus' balance sheet as restricted short-term investments. At December 31, 2001, restricted short-term investments related to this obligation were approximately \$866.0 million, which will mature to \$880.0 million, to secure the obligations under the LYONs on July 26, 2002. If on July 26, 2002, the LYONs are delivered to Novellus, the \$880.0 million could be used to repurchase the LYONs and any remaining unamortized issuance costs, approximately \$17.0 million as of July 26, 2002, would be written off as other expense. Upon expiration of the obligations under the pledge account, Novellus intends to use the net proceeds of the offering, if any, for general corporate purposes. Additionally, Novellus has the option of redeeming the LYONs on July 26, 2006, 2011, 2016, 2021, and 2026 for cash or common stock or a combination of cash and common stock.

Novellus may be obligated to pay contingent interest on the LYONs during the six-month period commencing July 27, 2004 and during any six-month period thereafter if the average market price of a LYON for a certain measurement period immediately preceding the applicable six-month period equals 120% or more of the issue price of the LYONs. The amount of contingent interest payable during any six-month period will be the sum of any contingent interest payable in the first and the second three-month periods during such six-month period. During any three-month period in which contingent interest is payable, the contingent interest payable per LYON for such period will be equal to the greater of (1) .0625% of the average market price of a LYON for the measurement period referred to above, or (2) the sum of all regular cash dividends paid by the Company per share on Novellus common stock during such three-month period multiplied by the number of shares of common stock issuable upon conversion of a LYON at the then applicable conversion rate.

If, as of the last day of any calendar quarter, the closing sales price of common stock for at least 20 trading days in a period of 30 consecutive trading days ending on the last trading day of such calendar quarter is more than 110% of the conversion price per share of common stock on the last trading day of such quarter, then on and after the first day of the immediately succeeding calendar quarter, holders may surrender their LYONs for conversion into shares of common stock. Upon satisfaction of the foregoing condition, the LYONs will be thereafter convertible at any time and the convertible shares will be included in the calculation of fully diluted shares.

Novellus is not subject to compliance ratios under the LYONs. Payments on the LYONs will also effectively be subordinated to all existing and future indebtedness of Novellus' subsidiaries.

Applied Litigation

On July 7, 1997, prior to the consummation of the purchase of the TFS business unit from Varian Associates Inc. ("Varian"), Applied Materials, Inc. ("Applied") filed a complaint (the "Applied Complaint") against Varian in the United States District Court for the Northern District of California San Jose Division, Civil Action No. C-97-20523 RMW, alleging, among other things, infringement by Varian (including the making, using, selling and/or offering for sale of certain products and systems made by TFS) of United States Patent Nos. 5,171,412, 5,186,718, 5,496,455 and 5,540,821 (the "Applied Patents"), which patents are owned by Applied.

Immediately after consummation of the TFS purchase, Novellus filed a complaint (the "Novellus Complaint") against Applied in the same Court, Civil Action No. C-97-20551 RMW, alleging infringement by Applied (including the making, using, selling and/or offering for sale of certain products and systems) of United States Patent Nos. 5,314,597, 5,330,628, and 5,635,036 (the "Novellus Patents"), which patents Novellus acquired from Varian in the TFS purchase. In the Novellus Complaint, Novellus also alleged that it is entitled to declarations from Applied that Novellus does not infringe the Applied Patents and/or that the Applied Patents are invalid and/or unenforceable. Applied has filed counterclaims alleging that Novellus infringes the Applied Patents.

Also after consummation of the TFS purchase, but some time after Novellus filed the Novellus Complaint, Applied amended the Applied Complaint to add Novellus as a defendant. Novellus has requested that the Court dismiss Novellus as a defendant in Applied's lawsuit against Varian. The Court has not yet required Novellus to file an answer to the Applied Complaint.

In addition to a request for a permanent injunction against further infringement, the Applied Complaint and Applied's counterclaims to the Novellus Complaint include requests for damages for alleged prior infringement and treble damages for alleged "willful" infringement. In connection with the consummation of the TFS purchase, Varian agreed, under certain circumstances, to reimburse Novellus for certain of its legal and other expenses in connection with the defense and prosecution of this litigation, and to indemnify Novellus for a portion of any losses incurred by Novellus arising from this litigation (including losses resulting from a permanent injunction). Novellus and Varian believe that there are meritorious defenses to Applied's allegations, including among other things, that Novellus' operations (including TFS products and systems) do not infringe the Applied Patents and/or that the Applied Patents are invalid and/or unenforceable. However, the resolution of intellectual property disputes is often fact intensive and, therefore, inherently uncertain. Although Novellus believes that the ultimate outcome of the dispute with Applied will not have a material adverse effect on Novellus' business, financial condition, or results of operations (taking into account both the defenses available to Novellus and Varian's reimbursement and indemnity obligations), there can be no assurances that Applied will not ultimately prevail in this dispute and that, in such an event, Varian's reimbursement and indemnity obligations will not be sufficient to fully reimburse Novellus for its losses. If Applied were to prevail in this dispute, it could have a material adverse effect on Novellus' business, financial condition, or results of operations.

The Novellus Complaint against Applied also includes requests for damages for prior infringement and treble damages for "willful" infringement, in addition to a request for a permanent injunction for further infringement. Novellus believes that this litigation will not have a material adverse impact on Novellus' financial condition or results of operations, however, there can be no assurances that Novellus will prevail against Applied. If Applied were to prevail against Novellus, it could have a material adverse impact on Novellus' business, financial condition, or results of operations.

Semitool Litigation I

On August 10, 1998, Semitool sued the Company for patent infringement in the United States District Court for the Northern District of California (the "District Court"). Semitool alleges that the Company's SABRETM and SABRETM xT copper deposition systems infringe two Semitool patents, U.S. Patent No. 5,222,310 (the "'310 patent"), issued June 29, 1993, entitled "Single Wafer Processor with a Frame," and U.S. Patent No. 5,377,708 (the "'708 patent"), issued January 3, 1995, entitled "Multi-Station Semiconductor Processor with Volatilization." Semitool seeks an injunction against the Company's manufacture and sale of the SABRETM and SABRETM xT systems, and seeks damages for past infringement. Semitool also seeks treble damages for alleged willful infringement. Semitool further seeks its attorneys' fees and costs, and interest on any judgment.

On September 24, 1999, the District Court ruled on the interpretation of the claims of the '310 and '708 patents. On December 18, 1999, the Company filed a motion for summary judgment of non-infringement.

On March 17, 2000, the District Court granted the Company's motion for summary judgment of non-infringement. The District Court ruled that the Company's SABRE™ and SABRE™ xT systems do not infringe the '310 and '708 patents.

On May 15, 2000, Semitool filed a notice of appeal, appealing the District Court's judgment to the United States Court of Appeals for the Federal Circuit (the "Federal Circuit"). On June 8, 2001, the Federal Circuit affirmed the District Court's judgment that the Company's SABRE™ and SABRE™ xT systems do not infringe the '310 and '708 patents.

On September 6, 2001, Semitool filed a petition for writ of certiorari with the United States Supreme Court to review the judgment of the Federal Circuit. On October 10, 2001, the Company filed an opposition to Semitool's petition for writ of certiorari. On October 24, 2001, Semitool filed a reply memorandum responding to the Company's opposition.

Novellus believes that this litigation will not have a material adverse impact on Novellus' financial condition or results of operations, however, there can be no assurances that Novellus will prevail against Semitool. If Semitool were to prevail against Novellus, it could have a material adverse impact on Novellus' business, financial condition, or results of operations.

Semitool Litigation II

On June 11, 2001, Semitool sued the Company for patent infringement in the United States District Court for the District of Oregon. Semitool alleges that the Company infringes Semitool's U.S. Patent No. 6,197,181, issued March 6, 2001, entitled "Apparatus and Method for Electrolytically Depositing a Metal on a Microelectronic Workpiece". Semitool seeks an injunction against the Company and damages for past infringement. Semitool also seeks treble damages for alleged willful infringement. Semitool further seeks its attorneys' fees and costs, and interest on any judgment.

On November 13, 2001, the Company countersued Semitool for patent infringement in the United States District Court for the District of Oregon. The Company alleges that Semitool infringes the Company's U.S. Patent Nos. 6,179,983, issued January 30, 2001 and entitled "Method and Apparatus for Treating Surface Including Virtual Anode;" 6,162,344, issued December 19, 2000 and entitled "Method of Electroplating Semiconductor Wafer Using Variable Currents and Mass Transfer to Obtain Uniform Plated Layer;" 6,110,346, issued August 29, 2000 and also entitled "Method of Electroplating Semiconductor Wafer Using Variable Currents and Mass Transfer to Obtain Uniform Plated Layer;" and 6,074,544, issued June 13, 2000 and also entitled "Method of Electroplating Semiconductor Wafer Using Variable Currents and Mass Transfer to Obtain Uniform Plated Layer." The Company seeks an injunction against Semitool and damages for past infringement. The Company also seeks treble damages for willful infringement by Semitool. The Company further seeks its attorneys' fees and costs, and interest on any judgment.

Although it is inherently difficult to assess the outcome of litigation matters when the litigation is in such an early stage, Novellus believes that this litigation will not have a material adverse impact on Novellus' financial condition or results of operations; however, there can be no assurances that Novellus will prevail against Semitool. If Semitool were to prevail against Novellus, it could have a material adverse impact on Novellus' business, financial condition, or results of operations.

Plasma Physics Litigation

On December 28, 1999, Plasma Physics Corporation and Solar Physics Corporation (collectively, "Plasma Physics") filed a patent infringement lawsuit against many of the Company's Japanese and Korean customers. The suit was entitled Plasma Physics and Solar Physics v. Fujitsu et al., Civil Action No. 99-8593, and was pending in the United States District Court for the Eastern District of New York. On July 24, 2000, the Court ordered Plasma Physics to re-file separate complaints against the Japanese and Korean defendants, whereupon, Civil Action No. 99-8593 would be dismissed without prejudice. In accordance with the Court's order, Plasma Physics re-filed separate complaints against the Japanese and Korean defendants in the United States District Court for the Eastern District of New York. Many of the defendants notified the Company that they believed that the Company had indemnification obligations and liability for the lawsuits.

Plasma Physics asserted U.S. Patent Nos. 4,226,897, 5,470,784, and/or 5,543,634 (the "'897, '784, and '634 patents," respectively) against the defendants. Plasma Physics sought an injunction against the defendants' alleged infringement of the '784 and '634 patents (the '897 patent had expired). Plasma Physics also sought treble damages for alleged willful

infringement. Plasma Physics further sought its attorney's fees and costs, and interest on any judgment. All of the Japanese and Korean defendants who are or were customers of the Company have since settled with Plasma Physics.

On June 1, 2000, the Company filed a declaratory relief action against Plasma Physics and Solar Physics requesting a judgment of non-infringement, invalidity, and unenforceability with respect to the '897 and '784 patents. The suit is entitled *Novellus v. Plasma Physics and Solar Physics*, Civil Action No. 00-3146, and is pending in the United States District Court for the Eastern District of New York. On June 30, 2000, Plasma Physics filed a motion to dismiss the Company's complaint for a lack of subject matter jurisdiction. Plasma Physics' motion to dismiss the Company's complaint was denied without prejudice on July 24, 2000. On July 31, 2000, Plasma Physics filed an Answer and Conditional Counterclaim. Plasma Physics denies that the '897 and '784 patents are invalid and unenforceable. Plasma Physics further denies that the '784 patent is not infringed by the Company. Plasma Physics also asserted a conditional counterclaim against the Company, alleging that the Company's PECVD processing systems infringe the '784 patent.

On June 12, 2001, the United States Patent and Trademark Office issued to Plasma Physics U.S. Patent No. 6,245,648, entitled "Method of Forming Semiconducting Materials and Barriers" (the "'648 Patent"). On June 13, 2001, Plasma Physics sent a letter to the Company, indicating that it may sue the Company's customers for their alleged infringement of the '648 Patent.

Novellus believes that this litigation will not have a material adverse impact on Novellus' financial condition or results of operations, however, there can be no assurances that Novellus will prevail against Plasma Physics. If Plasma Physics were to prevail against Novellus, it could have a material adverse impact on Novellus' business, financial condition, or results of operations.

Other Litigation

In addition, in the normal course of business, Novellus from time to time receives inquiries with regard to possible other patent infringements. Novellus believes it is unlikely that the outcome of the patent infringement inquiries will have a material adverse effect on Novellus' financial position or results of operations.

There has been substantial litigation regarding patent and other intellectual property rights in semiconductor related industries. Although Novellus is not aware of any significant claim of infringement by its products of any patents or proprietary rights of others except as claimed by Applied, Semitool, and Plasma Physics, further commercialization of Novellus' products could provoke claims of infringement from third parties. In the future, litigation may be necessary to enforce patents issued to Novellus, to protect trade secrets or know-how owned by Novellus or to defend Novellus against claimed infringement of the rights of others and to determine the scope and validity of the proprietary rights of others. Any such litigation could result in substantial cost and diversion of effort by Novellus, which by itself could have a material adverse effect on Novellus' financial condition and operating results. Further, adverse determinations in such litigation could result in Novellus' loss of proprietary rights, subject Novellus to significant liabilities to third parties, require Novellus to seek licenses from third parties or prevent Novellus from manufacturing or selling its products, any of which could have a material adverse effect on Novellus' business, financial condition or results of operations.

Novellus is a defendant or plaintiff in various actions that arose in the normal course of business. In the opinion of management, the ultimate disposition of these matters will not have a material adverse effect on Novellus' business, financial condition, or results of operations.

NOTE 7 COMMITMENTS

Novellus leases nearly all of its facilities under operating leases, including synthetic leases, which expire at various dates through 2010. A synthetic lease is a form of operating lease wherein a third party lessor funds 100% of the acquisition and construction costs relating to one or more properties to be leased to a lessee. The lessor is the owner of the leased property and must provide at least 3% of the required funds in the form of at-risk equity. The lessor generally borrows the balance of the funds necessary to fund the acquisition and construction. Under certain of Novellus' synthetic lease agreements, the Company is obligated to lend approximately 87% of the cost of the leased asset to the lessor upon completion of construction. The leases with this requirement are known as defeased or self-funded transactions. Additionally, Novellus' synthetic leases require the Company to maintain collateral for the benefit of the lessor.

San Jose, California

The San Jose lease agreement covers 13 properties including land located in and around San Jose, California, including manufacturing, research and development, and administrative facilities, as well as Novellus' corporate headquarters. The lease has a term of five years beginning in September 2001 and includes properties which had a total aggregate fair value of approximately \$294.6 million in September 2001, assuming full completion. The lease agreement requires the lessor to provide 3% at-risk equity throughout the term of the lease. Approximately 97% of the lessor's financing was in the form of debt, including \$244.7 million which was loaned by Novellus. The Company's receivable from the lessor is included in notes receivable in the accompanying consolidated balance sheet. Novellus has also provided \$47.8 million in collateral to cover the remainder of the lessor's financing. Of this amount, \$13.5 million is held by the lessor and \$34.3 million is held by a collateral agent unrelated to the lessor.

Under the lease agreement, Novellus has the right to purchase the properties at any time prior to the expiration date of the lease for an amount that equals the total lease financing amount plus any current rent due and payable. At the end of the lease term, Novellus may renew the lease for up to three additional years (with the lessor's consent), refinance the lease, purchase the properties under a purchase option, or arrange to sell the properties to a third party. If Novellus chooses the sale option, it will be obligated to the lessor under a residual value guarantee for market value declines in the value of the facility as of the date of the sale. The aggregate residual value guarantee related to the San Jose properties is approximately \$259.4 million, assuming full completion. At December 31, 2001, the residual value guarantee represents an off-balance sheet contingent liability, for which Novellus does not believe that it has any significant exposure.

Rent payments under the lease agreement are based on the net outstanding lease balance which includes the cost of the leased properties less the amount defeased by the Company multiplied by the London Interbank Offer Rate (LIBOR) plus an applicable margin. As of December 31, 2001, the net outstanding lease balance and the amount defeased by Novellus was \$278.9 million and \$244.7 million respectively. Rent expense and interest income on the defeased portion of the lease balance include \$2.7 million of imputed interest at a rate of 3% to 4% for the period from lease inception to December 31, 2001. Novellus' lease receivable from the lessor is non-interest bearing and is repayable in full only if the Company chooses the sale option at the end of the lease term and successfully sells the properties for amounts in excess of the cost. Novellus' collateral is available to the lessor upon default, with certain exceptions.

Tualatin, Oregon

On April 18, 2001, Novellus entered into a synthetic lease agreement for the development of a manufacturing, research and development, and administrative facility to be constructed on 23 acres of land owned by Novellus in Tualatin, Oregon. The land has been leased to the lessor for 50 years. Under the Tualatin agreement, the lessor has agreed to finance a maximum of \$170.0 million to develop the facility. During the construction phase, the costs of construction, including the interest on outstanding lease balances are capitalized into the financing facility. Novellus is required to provide treasury bills as collateral equal to 111% of the outstanding lease balance as security for its obligations under the lease. At December 31, 2001, collateral of \$82.1 million was held by the lessor. The collateral is interest bearing at a market rate of interest, which was 2.27% at December 31, 2001. The lessor's ability to take possession of the collateral, which is on deposit with a third party custodian, is subject to provisions in the lease.

Upon completion of construction, the Company is obligated to defease 86% of the outstanding lease balance in the form of a non-interest bearing loan to the lessor and to provide cash collateral for the remaining 14%. Both the lease receivable and the collateral will be classified as noncurrent assets. Rent payments, based on the net outstanding lease balance are expected to begin in May 2002 upon completion of construction. Rent expense and interest income will be imputed on the defeased portion of the lease.

Novellus has the right to purchase the property at any time prior to the expiration date of the lease for an amount that equals the total lease financing amount plus any current rent amount due and payable. At the end of the five-year lease term, Novellus may renew the lease for up to three additional years (with the lessor's consent), purchase the property under its purchase option for an amount equal to the total lease financing amount, or arrange to sell the property to a third party. If Novellus chooses the sale option, it will be obligated to the lessor under a residual value guarantee for market value declines in the value of the property as of the date of sale of up to \$146.2 million. During construction, Novellus' maximum obligation to the lessor is generally limited to 89.9% of the construction costs incurred to date.

Summary information about Novellus' synthetic lease arrangements is as follows as of December 31, 2001 (currency amounts in thousands):

Property Location	Number of Properties	Total Lease Financing	Novellus Participation	Net Lease Financing	Collateral Value	Residual Value Guarantee
San Jose, CA	13	\$ 291,249	\$ 244,673	\$ 46,576	\$ 47,809	\$ 259,400
Tualatin, OR	1	75,705	—	75,705	82,092	68,059
	14	\$ 366,954	\$ 244,673	\$ 122,281	\$ 129,901	\$ 327,459

The following table summarizes Novellus' future minimum lease payments under all noncancelable operating leases, including synthetic leases and future sublease income under noncancelable subleases. Amounts payable under the synthetic leases exclude any payments under residual value guarantees and relate only to the net lease financing amounts. In addition, payments under the synthetic leases are subject to changes in LIBOR and have been included in the table using interest rates as of December 31, 2001 (in thousands):

2002	\$ 7,979
2003	7,945
2004	7,265
2005	7,006
2006	5,441
Thereafter	103
	35,739
Less: future sublease income	\$ (35,054)
Total minimum lease payments	\$ 685

Rent expense was approximately \$16.9 million, \$20.1 million, and \$20.4 million for the years ended December 31, 2001, 2000, and 1999, respectively, net of sublease income of \$7.2 million, \$8.1 million, and \$3.0 million for the years ended December 31, 2001, 2000, and 1999, respectively.

Restrictive Covenants

The synthetic lease agreements contain certain restrictive covenants, which include quick ratio and tangible net worth tests. The Company was in compliance with these covenants at December 31, 2001. If the Company did not comply with these covenants, the lessor could potentially terminate the leases, resulting in an acceleration of the sale or purchase options.

NOTE 8 EMPLOYEE BENEFIT PLANS

Employee Stock Option Plans

Novellus grants options to employees under the 1992 Stock Option Plan (the "Plan"). Under the Plan, options to purchase up to 33.3 million shares of Novellus' common stock may be granted at not less than fair market value. Options generally vest ratably over a four-year period on the anniversary date of the grant or as determined by the Board of Directors. Stock options expire ten years after date of grant. At December 31, 2001, approximately 9.2 million shares were reserved for future issuance under the Employee Stock Option Plan and options to purchase 8.3 million shares were exercisable at a weighted average exercise price of \$19.68.

Novellus has adopted the disclosure-only provisions of SFAS 123, "Accounting for Stock-Based Compensation." Accordingly, no expense has been recognized for options granted to employees under the Plan. SFAS 123 is applicable only to options granted after December 31, 1995, and therefore, the pro forma effect is not fully reflected until 1999.

Had compensation expense for Novellus' plan been determined based on the fair value at the grant date for awards made subsequent to December 15, 1995, consistent with the provisions of SFAS 123, the Company's net income and earnings per share would have been reduced to the pro forma amounts indicated below (in thousands, except per share data):

	2001	2000	1999
Net income as reported	\$ 144,470	\$ 149,380	\$ 68,707
Pro forma net income	\$ 75,992	\$ 102,065	\$ 46,150
Basic earnings per share as reported	\$ 1.01	\$ 1.10	\$ 0.56
Diluted earnings per share as reported	\$ 0.97	\$ 1.04	\$ 0.54
Pro forma basic earnings per share	\$ 0.53	\$ 0.75	\$ 0.38
Pro forma diluted earnings per share	\$ 0.51	\$ 0.71	\$ 0.36

In calculating pro forma compensation, the fair value of each option grant is estimated on the date of grant using the Black-Scholes option-pricing model with the following weighted-average assumptions for grants made in 2001, 2000, and 1999:

	2001	2000	1999
Dividend yield	None	None	None
Expected volatility	0.85	0.83	0.73
Risk free interest rate	4.1%	6.2%	5.6%
Expected lives	3.3 years	3.3 years	3.4 years

The weighted-average fair value of options granted during the year were \$22.85, \$21.50, and \$12.23 for 2001, 2000, and 1999, respectively.

The effects on pro forma disclosures of applying SFAS 123 are not likely to be representative of the effects on pro forma disclosures of future years.

The pro forma net income and earnings per share listed above include expense related to Novellus' Employee Stock Purchase Plans. The fair value of issuance under the employee stock purchase plans is estimated on the date of issuance using the Black-Scholes model with the following weighted-average assumptions for issuance made in 2001, 2000, and 1999:

	2001	2000	1999
Dividend yield	None	None	None
Expected volatility	0.81	1.03	0.81
Risk free interest rate	4.2%	6.4%	4.9%
Expected lives	½ year	½ year	½ year

The weighted average fair value of purchase rights granted during the year were \$16.76, \$21.66 and \$7.43 for 2001, 2000, and 1999, respectively.

Information with respect to stock option activity is as follows (in thousands, except per share data):

	Authorized	Outstanding	Price per Share	Weighted-Average Exercise Price
Balance at December 31, 1998	2,893	15,683	\$ 2.88 - \$ 19.63	\$ 11.56
Additional authorization	4,200	—	—	—
Options granted	(6,636)	6,636	\$ 15.77 - \$ 29.69	\$ 23.21
Options exercised	—	(3,699)	\$ 2.88 - \$ 19.63	\$ 9.62
Options canceled	1,398	(1,398)	\$ 6.06 - \$ 29.69	\$ 15.89
Balance at December 31, 1999	1,855	17,222	\$ 3.96 - \$ 29.69	\$ 16.11
Additional authorization	6,195	—	—	—
Options granted	(5,022)	5,022	\$ 30.06 - \$ 58.94	\$ 37.44
Options exercised	—	(3,155)	\$ 3.96 - \$ 25.56	\$ 10.32
Options canceled	1,095	(1,095)	\$ 3.96 - \$ 58.94	\$ 26.23
Balance at December 31, 2000	4,123	17,994	\$ 3.96 - \$ 58.94	\$ 22.47
Additional authorization	12,122	—	—	—
Options granted	(7,614)	7,614	\$ 28.00 - \$ 56.43	\$ 39.85
Options exercised	—	(2,506)	\$ 3.96 - \$ 48.80	\$ 14.04
Options canceled	543	(543)	\$ 5.89 - \$ 63.94	\$ 32.64
Balance at December 31, 2001	9,174	22,559	\$ 4.69 - \$ 86.42	\$ 29.04

The following table summarizes information about stock options outstanding at December 31, 2001 (share information in thousands):

Range of Exercise Prices	Options Outstanding			Options Exercisable	
	Options Outstanding at December 31, 2001	Weighted-Average Remaining Contractual Life (years)	Weighted-Average Exercise Price	Options Exercisable at December 31, 2001	Weighted-Average Exercise Price
\$ 4.69 - \$ 16.42	5,412	5.77	\$ 12.32	4,554	\$ 12.08
\$ 16.67 - \$ 25.56	4,922	7.74	\$ 23.96	2,387	\$ 23.76
\$ 25.56 - \$ 30.25	3,637	8.97	\$ 29.95	849	\$ 30.15
\$ 30.65 - \$ 38.70	5,958	9.92	\$ 38.50	74	\$ 33.87
\$ 40.69 - \$ 86.42	2,630	8.61	\$ 50.27	464	\$ 51.89
\$ 4.69 - \$ 86.42	22,559	8.14	\$ 29.04	8,328	\$ 19.68

Employee Stock Purchase Plans

In December 1988 and May 1992, Novellus adopted qualified Employee Stock Purchase Plans (the "Purchase Plans") under Sections 421 and 423 of the Internal Revenue Code and reserved 1,200,000 and 900,000 shares of common stock for issuance under the plans, respectively. In April 1998, the Board of Directors approved an amendment to the Purchase Plan, which was subsequently ratified by shareholders increasing the number of shares available for issuance thereunder from 2,100,000 shares to 2,850,000 shares. In April 1999, the Board of Directors approved an amendment to the Purchase Plan, which was subsequently ratified by shareholders increasing the number of shares available for issuance thereunder from 2,850,000 shares to 3,900,000 shares. Under the two plans, qualified employees are entitled to purchase shares at 85% of the fair market value on specified dates. There were approximately 309,000, 237,000, and 433,000 shares issued under the two plans in 2001, 2000, and 1999, respectively. At December 31, 2001, approximately 628,000 shares were reserved for future issuance under the Employee Stock Purchase Plan.

Prior to the merger with GaSonics, a publicly held company, GaSonics adopted the 1994 Employee Stock Purchase Plan. Participants in this plan were able to purchase shares at 85% of the lower of the fair value of the common stock on the

participant's entry date into the offering period or the fair market value on the semi-annual purchase date. At December 31, 2000, 379,000 shares were reserved for future issuance under this plan. There were approximately 49,000 and 89,000 shares issued under this plan in 2000 and 1999, respectively. Upon the merger with GaSonics in January 2001, this plan was liquidated.

Common Stock Repurchase Program

Through December 1998, the Board of Directors approved plans to repurchase up to 10,460,000 shares of common stock for issuance in future Company employee benefit and compensation plans and other requirements. Through December 31, 1998, the Company had repurchased 4,731,000 shares. During 1999 and 2000, the Company repurchased 122,000 and 20,000 shares under the program, and had purchased a total of 4,873,000 shares as through December 31, 2000. In October 2000, Novellus and GaSonics announced that each of its Board of Directors had rescinded its authorization for the purchase of common stock under the common stock purchase program.

On September 19, 2001, Novellus announced that its board of directors authorized a stock repurchase program of up to \$500 million over the next two years. As of December 31, 2001, no stock had been repurchased under this program.

Employee Savings and Retirement Plan

Novellus maintains a 401(k) retirement savings plan for its full-time employees. Participants in the plan may contribute up to 20% of their annual salary, limited by the maximum dollar amount allowed by the Internal Revenue Code. In January 2000, Novellus announced that it would contribute a percentage of each participating employee's salary deferral contributions up to a maximum of \$2,000 or 50% of the first 6% of an employee's annual compensation. Company matching contributions are invested in Novellus' common stock and become fully vested at the end of the employee's third year of service beginning on January 1, 2000. Novellus recorded \$4.7 million and \$3.3 million of expense in connection with matching contributions under this plan for the years ended December 31, 2001 and 2000, respectively.

Before the merger with GaSonics, GaSonics maintained a 401(k) benefit plan covering all employees meeting certain requirements. The plan included a deferred compensation arrangement permitting elective contributions to be made by the participants. Contributions made by GaSonics employees were at the discretion of the GaSonics board of directors and were not material in 2000 and 1999. Upon consummation of the merger with GaSonics in January 2001, this plan was liquidated.

NOTE 9 INCOME TAXES

Significant components of the provision for income taxes attributable to income before income taxes and cumulative effect of a change in accounting principle are as follows (in thousands):

	2001	2000	1999
Federal			
Current	\$ (40,645)	\$ 92,781	\$ 4,559
Deferred	72,765	(37,681)	(4,193)
	32,120	55,100	366
State			
Current	864	9,552	1,365
Deferred	70	(3,697)	(201)
	934	5,855	1,164
Foreign			
Current	6,816	9,794	9,426
Income tax benefits attributable to employee stock plan activity allocated to shareholders' equity	25,037	40,247	20,544
Total provision for income taxes	\$ 64,907	\$ 110,996	\$ 31,500

Pre-tax income from foreign operations was approximately \$15.0 million, \$31.0 million, and \$20.0 million in 2001, 2000, and 1999, respectively.

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of Novellus' deferred tax assets and liabilities are as follows at December 31 (in thousands):

	2001	2000
Deferred tax assets:		
Financial valuation accounts	\$ 16,542	\$ 12,570
Expenses not currently deductible	41,402	25,916
Capitalized in-process research and development	27,282	30,144
Deferred profit	22,729	95,009
Other	9,590	14,077
Total deferred tax assets	117,545	177,716
Valuation allowance	(7,628)	(10,728)
Deferred tax assets, net of valuation allowance	109,917	166,988
Deferred tax liabilities:		
Depreciation	(44,823)	(29,059)
Total net deferred tax assets	\$ 65,094	\$ 137,929

The provision for income taxes differs from the provision calculated by applying the federal statutory tax rate to income before income taxes, and cumulative effect of a change in accounting principle, because of the following (in thousands):

	2001	2000	1999
Expected provision at 35%	\$ 73,282	\$ 122,557	\$ 35,076
State tax, net of federal benefit	2,886	8,307	1,750
Research and development credits	(6,783)	(6,490)	(2,372)
Foreign sales corporation benefit	(7,328)	(13,663)	(1,338)
Valuation allowance decrease	(3,100)	(3,100)	(3,100)
Other	5,950	3,385	1,484
Total provision for income taxes	\$ 64,907	\$ 110,996	\$ 31,500

NOTE 10 GEOGRAPHIC INFORMATION REPORTING AND MAJOR CUSTOMERS

Novellus operates in one segment as it manufactures, markets, and services semiconductor processing equipment for the deposition of thin films within the semiconductor equipment market, as well as equipment for preparing the device surface prior to these deposition processes. Novellus is a supplier of high productivity deposition and surface preparation systems used in the fabrication of integrated circuits. All products and services are marketed within the geographic regions in which the Company operates. Novellus operates as one segment under SFAS 131, "Disclosure about Segments of an Enterprise and Related Information."

The following is a summary of operations in geographic areas (in thousands):

	North America	Europe	Pacific Rim	Eliminations	Consolidated
2001					
Sales to unaffiliated customers	\$ 1,165,923	\$ 7,425	\$ 165,974	\$ —	\$ 1,339,322
Transfers between geographic locations	84,257	16,185	33,347	(133,789)	—
Total net sales	1,250,180	23,610	199,321	(133,789)	1,339,322
Operating income	\$ 135,137	\$ 2,170	\$ 14,677	\$ —	\$ 151,984
Long-lived assets	\$ 172,494	\$ 608	\$ 4,499	\$ —	\$ 177,601
All other identifiable assets	2,737,365	5,475	89,221	—	2,832,061
Total assets	\$ 2,909,859	\$ 6,083	\$ 93,720	\$ —	\$ 3,009,662
2000					
Sales to unaffiliated customers	\$ 1,047,387	\$ 9,726	\$ 262,373	\$ —	\$ 1,319,486
Transfers between geographic locations	158,258	13,387	33,994	(205,639)	—
Total net sales	1,205,645	23,113	296,367	(205,639)	1,319,486
Operating income	\$ 261,560	\$ 1,827	\$ 30,173	\$ 274	\$ 293,834
Long-lived assets	\$ 137,972	\$ 327	\$ 10,083	\$ —	\$ 148,382
All other identifiable assets	1,894,053	6,200	158,314	(1,475)	2,057,092
Total assets	\$ 2,032,025	\$ 6,527	\$ 168,397	\$ (1,475)	\$ 2,205,474
1999					
Sales to unaffiliated customers	\$ 563,488	\$ 3,587	\$ 89,946	\$ —	\$ 657,021
Transfers between geographic locations	33,682	10,601	19,409	(63,692)	—
Total net sales	597,170	14,188	109,355	(63,692)	657,021
Operating income	\$ 65,218	\$ 639	\$ 19,414	\$ (291)	\$ 84,980
Long-lived assets	\$ 122,206	\$ 223	\$ 9,543	\$ —	\$ 131,972
All other identifiable assets	800,476	3,577	66,049	(1,722)	868,380
Total assets	\$ 922,682	\$ 3,800	\$ 75,592	\$ (1,722)	\$ 1,000,352

Revenue for each geographic area is recognized in accordance with SAB 101 from the locations within a designated geographic region. Transfers and commission arrangements between geographic areas are at prices sufficient to recover a reasonable profit.

For the year ended December 31, 2001, one customer accounted for 16% of Novellus' net sales. For the year ended December 31, 2000, two customers accounted for 14% and 10% of Novellus' net sales and in 1999, three customers accounted for 16%, 12%, and 11% of the Company's net sales respectively.

NOTE 11 SPECIAL CHARGES

The components of special charges are as follows (in thousands):

	2001	2000	1999
Restructuring and asset impairment charges	\$ 47,945	\$ —	\$ 407
In-process research and development	—	6,000	—
Merger-related expenses	13,161	—	—
	\$ 61,106	\$ 6,000	\$ 407

Restructuring and Asset Impairment Charges

In September 2001, Novellus announced its intention to restructure its operations, which was driven by the decline in Novellus' orders due to the contraction of the semiconductor capital equipment market from calendar year 2000 levels. During the third quarter of 2001, the restructuring plan was approved by the appropriate level of management necessary to commit the Company to its specific actions. The Company began implementing the plan during the third quarter of 2001 and recorded restructuring and asset impairment charges totaling \$55.0 million, of which \$47.9 million is included in operating expenses and \$7.1 million is included in cost of sales. The restructuring charges included \$33.8 million related to vacated facilities, \$9.5 million related to abandoned assets associated with the discontinuation of certain projects, and \$4.6 million related to the write-off of purchased technology. Additionally, the discontinuation of certain projects resulted in \$7.1 million of inventory write-downs, which are included in cost of sales.

Below is a table summarizing activity relating to the September 2001 Plan (in thousands):

	Provisions	Cash Payments	Non-cash Charges	Balance at December 31, 2001
Vacated facilities	\$ 33,818	\$ (952)	\$ (6,017)	\$ 26,849
Abandoned assets	9,495	(1,745)	(7,750)	—
Write-off of purchased technology	4,632	—	(4,632)	—
Restructuring accrual	47,945	\$ (2,697)	\$ (18,399)	26,849
Discontinued inventory	7,102	—	(7,102)	—
Total	\$ 55,047	\$ (2,697)	\$ (25,501)	\$ 26,849

The charge for vacated facilities relates to rent obligations after the abandonment of certain facilities currently under long-term operating lease agreements. When applicable, anticipated future sublease income relating to vacated buildings has been offset against the charge for the remaining lease payments. All leasehold improvements relating to the vacated buildings which have no future economic benefit have been abandoned. Additionally, certain fixed assets associated with these facilities had no future economic benefit and have been written off.

The charge for abandoned assets and discontinued inventory are associated with programs exited by Novellus. The write-off of purchased technology relates to technology that has been abandoned by the Company.

As of December 31, 2001, significantly all actions under the restructuring plan have been achieved except for future rent obligations related to vacated facilities. The remaining \$26.8 million balance of the restructuring accrual is for future rent obligations which are to be paid in cash over the next five years.

The twelve-month period ended December 31, 1999 included pre-tax charges of approximately \$0.5 million related to costs associated with reductions in force and the facility consolidations of GaSonics. At December 31, 2000, all expenses related to these accruals had been paid.

Merger-Related Expense

During the first quarter of 2001, Novellus incurred merger costs related to the acquisition of GaSonics of \$13.2 million. These costs included professional fees, financial printing, and other related costs. Additionally, these costs included charges related to the cancellation of various contracts and the write-off of certain redundant assets. At December 31, 2001, all expenses related to these accruals had been paid.

In-Process Research and Development

The twelve month period ended December 31, 2000 included a pre-tax charge to operations in connection with the acquisition of Gamma Precision Technology ("GPT") of \$6.0 million for the write-off of in-process research and development that had not reached technological feasibility and, in management's opinion, had no alternative future use. The one-time charge is reflected in Novellus' consolidated statement of operations as in-process research and development within operating expenses.

NOTE 12 BAD DEBT WRITE-OFF

In September 2001, Novellus determined that due to the financial difficulties facing one of its customers, an outstanding accounts receivable balance was at risk for collection. Accordingly, Novellus recorded a write-off of \$7.7 million.

NOTE 13 ACQUISITION OF GAMMA PRECISION TECHNOLOGY

On September 13, 2000, GaSonics completed their acquisition of Gamma Precision Technology ("GPT"), a global supplier of products and services used in the fabrication of advanced integrated circuits. GaSonics issued 340,900 (share count adjusted for the merger exchange ratio of 0.52 Novellus share for GaSonics share) shares of common stock and paid approximately \$21.5 million in cash in exchange for all outstanding GPT common stock, preferred stock, warrants and vested options. In addition, GaSonics assumed all unvested options. The total cost of the acquisition, including transaction costs, was approximately \$34.9 million.

The acquisition was accounted for as a purchase business combination, and the results of GPT from the date of acquisition forward have been recorded in Novellus' consolidated financial statements. In connection with the acquisition, net tangible assets of \$10.4 million were acquired, of which \$6.0 million is reflected as a one time charge to operations for the write-off of in-process research and development that had not reached technological feasibility and, in management's opinion, had no probable alternative future use. The one-time charge is reflected in Novellus' consolidated statement of operations as in-process research and development within operating expenses. The remaining intangible assets of \$24.5 million are included in other assets in the accompanying balance sheet and are being amortized over the useful life of seven years.

The value assigned to acquired in-process research and development was determined by identifying research projects in areas for which technological feasibility had not been established. This was determined by estimating the cost to develop the acquired in-process technology into commercially viable products, estimating the resulting net cash flows from such projects, and discounting the net cash flows back to their present values. The discount rate includes a factor that takes into account the uncertainty surrounding the successful development of the acquired in-process technology. If these projects are not successfully developed, future revenue and profitability of GPT products may be adversely affected. There can be no assurance that the value of the other purchased intangible assets may not become impaired prior their amortization.

The purchase price was allocated to the fair market value of net assets as acquired as follows (in thousands):

Cash	\$ 928
Accounts receivable	4,175
Inventory	1,770
Property and equipment	271
Other assets	30
Intangibles, including in-process research and development	30,491
Accounts payable and accrued liabilities	(2,794)
Net assets acquired	<u>\$ 34,871</u>

The following unaudited pro forma condensed consolidated statements of operations has been prepared as if the acquisition was consummated as of January 1, 1999 and does not include the \$6.0 million in-process research and development charge.

(In thousands, except per share data)

	Twelve months ended December 31,	
	2000	1999
Revenue	\$ 1,329,581	\$ 657,590
Net income (loss)	\$ 153,288	\$ 63,836
Net income per share-basic	\$ 1.13	\$ 0.52
Net income per share-diluted	\$ 1.07	\$ 0.50
Weighted average common shares-basic	135,728	122,261
Weighted average common and common equivalent	143,654	127,826

NOTE 14 RELATED PARTY TRANSACTIONS

One customer represented 16%, 14%, and 11% of Novellus' sales during the years ended December 31 2001, 2000, and 1999, respectively. A member of Novellus' board of directors also serves on the board of directors of this customer, and therefore, the customer is considered a related party.

NOTE 15 QUARTERLY FINANCIAL DATA (UNAUDITED)

	Year ended December 31, 2001			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter ¹
(In thousands, except per share data)				
Net sales	\$ 458,705	\$ 376,899	\$ 303,687	\$ 200,031
Gross profit	\$ 254,985	\$ 199,624	\$ 140,138	\$ 96,604
Net income (loss)	\$ 82,102	\$ 59,221	\$ (14,019)	\$ 17,166
Basic earnings (loss) per share	\$ 0.58	\$ 0.42	\$ (0.10)	\$ 0.12
Diluted earnings (loss) per share	\$ 0.55	\$ 0.40	\$ (0.10)	\$ 0.12
Shares used in basic per share calculations	141,009	142,267	143,218	143,354
Shares used in diluted per share calculations	148,108	149,643	143,218	148,459

	Year ended December 31, 2000			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
(In thousands, except per share data)				
Net sales	\$ 219,958	\$ 363,963	\$ 292,889	\$ 442,676
Gross profit	\$ 117,165	\$ 201,981	\$ 158,581	\$ 253,166
Net income before cumulative effect of a change in accounting principle	\$ 23,817	\$ 78,211	\$ 43,284	\$ 93,856
Cumulative effect of a change in accounting principle, net of tax	\$ (89,788)	—	—	—
Net income (loss)	\$ (65,971)	\$ 78,211	\$ 43,284	\$ 93,856
Basic earnings per share before cumulative effect of a change in accounting principle	\$ 0.19	\$ 0.58	\$ 0.31	\$ 0.67
Cumulative effect of a change in accounting principle	\$ (0.70)	—	—	—
Basic earnings (loss) per share	\$ (0.51)	\$ 0.58	\$ 0.31	\$ 0.67
Diluted earnings per share before cumulative effect of a change in accounting principle	\$ 0.17	\$ 0.54	\$ 0.30	\$ 0.64
Cumulative effect of a change in accounting principle	\$ (0.65)	—	—	—
Diluted earnings (loss) per share	\$ (0.48)	\$ 0.54	\$ 0.30	\$ 0.64
Shares used in basic per share calculations	128,245	135,759	138,939	140,032
Shares used in diluted per share calculations	137,076	144,249	147,121	146,023

¹ Net income for the fourth quarter of 2001 includes the benefit of a pre-tax \$25.4 million, or \$0.12 per fully diluted share, reversal of bonus and profit sharing expense recorded in the first three quarters of 2001.

REPORT OF ERNST & YOUNG LLP, INDEPENDENT AUDITORS

The Board of Directors and Shareholders
Novellus Systems, Inc.

We have audited the accompanying consolidated balance sheets of Novellus Systems, Inc. as of December 31, 2001 and 2000, and the related consolidated statements of operations, shareholders' equity, and cash flows for each of the three years in the period ended December 31, 2001. Our audits also included the financial statement schedule listed in the index at Item 14(a)(2). The consolidated financial statements give retroactive effect to the merger of Novellus Systems, Inc. and GaSonic International on January 10, 2001, which has been accounted for using the pooling of interests method as described in the notes to the consolidated financial statements. These financial statements and schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements and schedule based on our audits. We did not audit the financial statements of GaSonic International, which statements reflect total assets constituting 9% in 2000, and total net sales constituting 11% in 2000 and 10% in 1999 of the related consolidated totals. Those statements were audited by other auditors whose report has been furnished to us, and our opinion, insofar as it relates to the data included for GaSonic International, is based solely on the report of the other auditors.

We conducted our audits in accordance with auditing standards generally accepted in the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits and the report of other auditors provide a reasonable basis for our opinion.

In our opinion, based on our audits and the report of the other auditors, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Novellus Systems, Inc. at December 31, 2001 and 2000, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2001, in conformity with accounting principles generally accepted in the United States. Also, in our opinion, the related financial statement schedule, when considered in relation to the basic financial statements taken as a whole, present fairly in all material respects the information set forth therein.

As discussed in Note 1 to the consolidated financial statements, in 2000, the Company changed its method of accounting for revenue recognition in accordance with guidance provided in SEC Staff Accounting Bulletin No. 101 (SAB 101), "Revenue Recognition in Financial Statements".

/s/ ERNST & YOUNG LLP

San Jose, California
January 20, 2002

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

Not applicable.

PART III

ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT

The information required by this item is included under "Proposal No. 1: Election of Directors," "Other Information – Executive Officers" and "Compliance with Section 16(a) of the Exchange Act" in Novellus' Proxy Statement to be filed in connection with its 2002 Annual Meeting of Shareholders and is incorporated herein by reference.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this item is included under "Other Information – Executive Compensation" in Novellus' Proxy Statement to be filed in connection with its 2002 Annual Meeting of Shareholders and is incorporated herein by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The information required by this item is included under "Other Information – Security Ownership of Certain Beneficial Owners and Management" in Novellus' Proxy Statement to be filed in connection with its 2002 Annual Meeting of Shareholders and is incorporated herein by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

The information required by this item is included under "Other Information – Certain Transactions" in Novellus' Proxy Statement to be filed in connection with its 2002 Annual Meeting of Shareholders and is incorporated herein by reference.

PART IV

ITEM 14. EXHIBITS, FINANCIAL STATEMENT SCHEDULES, AND REPORTS ON FORM 8-K

(a) The following documents are filed as part of this report:

(1)

Financial Statements and Report of Ernst & Young LLP, Independent Auditors	
Consolidated Statements of Operations - Years Ended December 31, 2001, 2000, and 1999	41
Consolidated Balance Sheets at December 31, 2001 and 2000	42
Consolidated Statements of Cash Flows - Years Ended December 31, 2001, 2000, and 1999	43
Consolidated Statement of Shareholders' Equity - Years Ended December 31, 2001, 2000 and 1999	44
Notes to Consolidated Financial Statements	45
Report of Ernst & Young LLP, Independent Auditors	66

(2)

Financial Statement Schedules.

The following financial statement schedule is filed as part of this Report on Form 10-K and should be read in conjunction with the financial statements:

Schedule II - Valuation and Qualifying Accounts	76
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All other schedules are omitted because they are not required or the required information is included in the financial statements or notes thereto.

(3)

Exhibits (numbered in accordance with Item 601 of Regulation S-K)

3.1 (29)	Amended and Restated Articles of Incorporation of Registrant.
3.2	Form of Bylaws of Registrant as amended
8.1 (30)	Written opinion regarding tax matters associated with the Liquid Yield Option™ Notes ("LYONs"), issued by Ernst & Young LLP, dated September 20, 2001.
10.1 (7)	Asset Purchase Agreement by and between Varian Associates, Inc. and Novellus dated May 7, 1997.
10.2 (8)	First Amendment to Asset Purchase Agreement by and between Varian Associates, Inc. and Novellus dated June 20, 1997.
10.3 (9)	Assignment and Assumption of Lessee's Interest in Lease (Units 8 and 9, Palo Alto) and Covenants, Conditions and Restrictions on Leasehold Interests (Units 1-12 Palo Alto) by and between Varian Associates, Inc. and Novellus dated May 7, 1997.
10.4 (10)	Sublease (Portion of Unit 9, Palo Alto) by and between Varian Associates, Inc. and Novellus dated May 7, 1997.

- 10.6 (11) Environmental Agreement by and between Varian Associates, Inc. and Novellus dated May 7, 1997.
- 10.7 (12) Cross License Agreement by and between Varian Associates, Inc. and Novellus dated May 7, 1997.
- 10.8 (13) Parts Supply Agreement by and between Varian Associates, Inc. and Novellus dated May 7, 1997.
- 10.9 (14) Settlement Agreement by and between Applied Materials, Inc. and Novellus dated May 7, 1997. Confidential treatment has been granted with respect to portions of this Exhibit.
- 10.10 (15) Credit Agreement by and among ABN AMRO Bank, N.V., as agent, the lenders named therein, and Novellus dated May 7, 1997.
- 10.11 (16) Participation Agreement by and among Lease Plan North America, Inc. Novellus and ABN AMRO Bank, N.V., as agent for the participations named therein, dated June 9, 1997.
- 10.11.1(17) Letter Amendment, dated June 20, 1997, to the Participation Agreement by and among Lease Plan North America, Inc., Novellus and ABN AMRO Bank, N.V., as agent for the participants named therein, dated June 9, 1997.
- 10.11.2 (18) Amendment no. 1, dated August 28, 1997, to the Participation Agreement by and among Lease Plan North America, Inc., Novellus and ABN AMRO Bank, N.V., as agent for the participants named therein, dated June 9, 1997.
- 10.11.3 (19) Amendment no. 2, dated September 26, 1997, to the Participation Agreement by and among Lease Plan North America, Inc., Novellus and ABN AMRO Bank, N.V., as agent for the participants named therein, dated June 9, 1997.
- 10.12 (20) Amendment no. 1, dated August 28, 1997, to the Facility 2 Lease Agreement, Construction Deed of Trust With Assignment of Rents, Security Agreement and Fixture Filing by and between Lease Plan North America, Inc. and Novellus dated June 9, 1997.
- 10.13 (21) Amendment no. 2, dated September 26, 1997, to the Facility 2 Lease Agreement, Construction Deed of Trust With Assignment of Rents, Security Agreement and Fixture Filing by and between Lease Plan North America, Inc. and Novellus dated June 9, 1997.
- 10.13 (22) Amendment no. 1, dated September 26, 1997, to the Facility 1 Lease Agreement, Deed of Trust With Assignment of Rents, Security Agreement and Fixture Filing by and between Lease Plan North America, Inc. and Novellus dated June 9, 1997.
- 10.14 (23) Participation Agreement by and among Lease Plan USA, Inc., Novellus and ABN AMRO Bank, N.V., as agent for the participants named therein, dated October 15, 1997.
- 10.15 (24) Facility 1 Lease Agreement, Deed of Trust With Assignment of Rents, Security Agreement and Fixture Filing by and between Lease Plan USA, Inc. and Novellus dated October 15, 1997.
- 10.16 (25) Facility 2 Lease Agreement, Construction Deed of Trust With Assignment of Rents, Security Agreement and Fixture Filing by and between Lease Plan USA, Inc. and Novellus dated October 15, 1997.
- *10.20 (2) Registrant's Amended and Restated 1984 Stock Option Plan, together with forms of agreements thereunder.
- *10.21 (3) Registrant's 1992 Stock Option Plan, together with forms of agreements thereunder.

- *10.21.1 (29) Form of Restated Stock Purchase Agreement dated December 16, 1999 between Novellus and Jeff Benzing, Wilbert van den Hoek and certain other employees of Novellus.
- *10.22 (4) Novellus' 1992 Employee Stock Purchase Plan.
- *10.23 (1) Form of Agent Indemnification Agreement and amendment thereto.
- *10.25 (5) Employment Agreement dated June 15, 1992 between Novellus and Peter Hanley.
- *10.26 (6) Offer Letter Agreement dated November 1, 1993 between Novellus and Richard S. Hill.
- *10.27 (26) Employment Agreement dated October 1, 1998 between Novellus and Richard S. Hill.
- *10.27.1(29) Amendment dated December 16, 1999 to Employment Agreement between Novellus and Richard S. Hill.
- *10.27.2(29) Restricted Stock Purchase Agreement dated December 16, 1999 between Novellus and Richard S. Hill.
- 10.28 (27) First Amendment to Participation Agreement dated June 4, 1999.
- 10.29 (28) Asset Purchase Agreement by and between Fairchild Technologies USA, Inc. and Novellus dated July 29, 1999.
- *10.30 (31) Employment Agreement dated January 12, 2001 between Novellus and Asuri Raghavan.
- *10.31 (31) GaSonics International Corporation 1994 Stock Option Plan, together with forms of agreements thereunder as assumed by Novellus.
- *10.32 (31) Gamma Precision Technology, Inc. 1998 Stock Option Plan, together with forms of agreements thereunder as assumed by Novellus.
- *10.33 (31) GaSonics International Corporation supplemental Stock Option Plan as assumed by Novellus.
- *10.34 (31) Form of Light Industrial Lease between Teachers Insurance and Annuity Association of America and the Registrant for office space at 2730 Junction Avenue, San Jose, California.
- 10.35 (32) Amendment no. 2, dated April 13, 2001, to the Participation Agreement by and among Lease Plan North America, Inc., Novellus, and ABN AMRO Bank N.V., as agent for the participations named therein, dated August 31, 1998.
- 10.36 (32) Amendment no. 7, dated April 13, 2001, to the Participation Agreement by and among Lease Plan North America, Inc., Novellus, and ABN AMRO Bank N.V., as agent for the participations named therein, dated October 15, 1997.
- 10.37 (32) Amendment no. 2, dated April 13, 2001, to the Participation Agreement by and among Lease Plan North America, Inc., Novellus, and ABN AMRO Bank N.V., as agent for the participations named therein, dated August 7, 1998.
- 10.38 (32) Amendment no. 2, dated April 13, 2001, to the Participation Agreement by and among Lease Plan North America, Inc., Novellus, and ABN AMRO Bank N.V., as agent for the participations named therein, dated June 9, 1997.
- 10.39 (32) Participation Agreement by and among Lease Plan North America, Inc., Novellus, and ABN AMRO Bank, N.V., as agent for the participations named therein, dated April 13, 2001.

10.40 (32)	Participation Agreement by and among Lease Plan North America, Inc., Novellus, and ABN AMRO Bank, N.V., as agent for the participations named therein, dated April 18, 2001.	
10.41 (32)	Novellus Systems, Inc. 2001 Stock Incentive Plan, dated May 11, 2001, together with forms of agreements thereunder.	
10.42 (33)	Participation Agreement by and among Novellus Systems, Inc., ABN AMRO Leasing, Inc., Novellus Investment I, LLC, and ABN AMRO Bank, N.V., as agent for the participants named therein, dated September 21, 2001.	
10.43 (33)	First Amendment to the Participation Agreement, dated April 18, 2001, by and among Novellus Systems, Inc., ABN AMRO Leasing, Inc., and ABN AMRO Bank, N.V., as agent for the participants named therein, dated September 21, 2001.	
12.1	Ratio of Fixed Charges.	77
21.1	Subsidiaries of Novellus.	78
23.1	Consent of Ernst & Young LLP, Independent Auditors.	79
23.2	Consent of Arthur Andersen LLP, Independent Public Accountants.	80
24.1	Power of Attorney (see page 75).	
99.1	Report of Arthur Andersen LLP, Independent Public Accountants.	81

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- (1) Incorporated by reference to Exhibit 10.2 filed with Novellus' Registration Statement on Form S-1, File No. 33-23011, which was declared effective August 11, 1988.
 - (2) Incorporated by reference to Exhibit 10.1 filed with Novellus' Report on Form 10-K filed with the Securities and Exchange Commission on March 30, 1992.
 - (3) Incorporated by reference to Exhibit 10.30 filed with Novellus' Report on Form 10-K filed with the Securities and Exchange Commission on February 26, 1993.
 - (4) Incorporated by reference to Exhibit 10.31 filed with Novellus' Report on Form 10-K filed with the Securities and Exchange Commission on February 26, 1993.
 - (5) Incorporated by reference to Exhibit 10.34 filed with Novellus' Report on Form 10-K filed with the Securities and Exchange Commission on February 26, 1993.
 - (6) Incorporated by reference to Exhibit 10.41 filed with Novellus' Report on Form 10-K filed with the Securities and Exchange Commission on February 18, 1994.
 - (7) Incorporated by reference to Exhibit 2.1 to Novellus' Report on Form 8-K filed with the Securities and Exchange Commission on July 7, 1997.
 - (8) Incorporated by reference to Exhibit 2.2 to Novellus' Report on Form 8-K filed with the Securities and Exchange Commission on July 7, 1997.
 - (9) Incorporated by reference to Exhibit 2.3 to Novellus' Report on Form 8-K filed with the Securities and Exchange Commission on July 7, 1997.

- (10) Incorporated by reference to Exhibit 2.4 to Novellus' Report on Form 8-K filed with the Securities and Exchange Commission on July 7, 1997.
- (11) Incorporated by reference to Exhibit 2.6 to Novellus' Report on Form 8-K filed with the Securities and Exchange Commission on July 7, 1997.
- (12) Incorporated by reference to Exhibit 2.7 to Novellus' Report on Form 8-K filed with the Securities and Exchange Commission on July 7, 1997.
- (13) Incorporated by reference to Exhibit 2.8 to Novellus' Report on Form 8-K filed with the Securities and Exchange Commission on July 7, 1997.
- (14) Incorporated by reference to Exhibit 10.1 to Novellus' Report on Form 10-Q filed with the Securities and Exchange Commission on August 11, 1997.
- (15) Incorporated by reference to Exhibit 10.2 to Novellus' Report on Form 10-Q filed with the Securities and Exchange Commission on August 11, 1997.
- (16) Incorporated by reference to Exhibit 10.4 to Novellus' Report on Form 10-Q filed with the Securities and Exchange Commission on November 10, 1997.
- (17) Incorporated by reference to Exhibit 10.1.1 to Novellus' Report on Form 10-Q filed with the Securities and Exchange Commission on November 10, 1997.
- (18) Incorporated by reference to Exhibit 10.1.2 to Novellus' Report on Form 10-Q filed with the Securities and Exchange Commission on November 10, 1997.
- (19) Incorporated by reference to Exhibit 10.1.3 to Novellus' Report on Form 10-Q filed with the Securities and Exchange Commission on November 10, 1997.
- (20) Incorporated by reference to Exhibit 10.2 to Novellus' Report on Form 10-Q filed with the Securities and Exchange Commission on November 10, 1997.
- (21) Incorporated by reference to Exhibit 10.2.1 to Novellus' Report on Form 10-Q filed with the Securities and Exchange Commission on November 10, 1997.
- (22) Incorporated by reference to Exhibit 10.3 to Novellus' Report on Form 10-Q filed with the Securities and Exchange Commission on November 10, 1997.
- (23) Incorporated by reference to Exhibit 10.4 to Novellus' Report on Form 10-Q filed with the Securities and Exchange Commission on November 10, 1997.
- (24) Incorporated by reference to Exhibit 10.5 to Novellus' Report on Form 10-Q filed with the Securities and Exchange Commission on November 10, 1997.
- (25) Incorporated by reference to Exhibit 10.6 to Novellus' Report on Form 10-Q filed with the Securities and Exchange Commission on November 10, 1997.
- (26) Incorporated by reference to the exhibit with the corresponding exhibit number in Novellus' Report on Form 10-K filed with the Securities and Exchange Commission on March 10, 1999.
- (27) Incorporated by reference to the exhibit with the corresponding exhibit number in Novellus' Form 10-Q filed with the Securities and Exchange Commission on August 9, 1999.
- (28) Incorporated by reference to the exhibit with the corresponding exhibit number in Novellus' Report on Form 10-Q filed with the Securities and Exchange Commission on November 8, 1999.

- (29) Incorporated by reference to the exhibit with the corresponding exhibit number in Novellus' Report on Form 10-K filed with the Securities and Exchange Commission on March 30, 2000.
- (30) Incorporated by reference to the exhibit with the corresponding exhibit number in Novellus' Report on Form S-3 filed with the Securities and Exchange Commission on September 25, 2001.
- (31) Incorporated by reference to the exhibit with the corresponding exhibit number in Novellus' Report on Form 10-K filed with the Securities and Exchange Commission on March 23, 2001.
- (32) Incorporated by reference to the exhibit with the corresponding exhibit number in Novellus' Report on Form 10-Q filed with the Securities and Exchange Commission on May 15, 2000.
- (33) Incorporated by reference to the exhibit with the corresponding exhibit number in Novellus' Report on Form 10-Q filed with the Securities and Exchange Commission on November 13, 2001.

* Management contracts or compensatory plans or arrangements.

(b) Reports on Form 8-K:

Not applicable.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities and Exchange Act of 1934, the Registrant has duly caused this Report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Jose, State of California on this 21st day of March, 2002.

NOVELLUS SYSTEMS, INC.

By: /s/ Kevin S. Royal

Kevin S. Royal

VICE PRESIDENT AND CHIEF FINANCIAL OFFICER

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Richard S. Hill and Kevin S. Royal, and each of them, his attorneys-in-fact, each with the power of substitution, for him in any and all capacities, to sign any amendments to this Report on Form 10-K and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact, or his substitute or substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this Report on Form 10-K has been signed by the following persons on behalf of the Registrant in the capacities and on the date indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Richard S. Hill</u> Richard S. Hill	Chairman of the Board of Directors, President and Chief Executive Officer (Principal Executive Officer)	March 21, 2002
<u>/s/ Kevin S. Royal</u> Kevin S. Royal	Vice President and Chief Financial Officer	March 21, 2002
<u>/s/ Robert H. Smith</u> Robert H. Smith	Executive Vice President, Administration, Secretary and Director	March 21, 2002
<u>/s/ D. James Guzy</u> D. James Guzy	Director	March 21, 2002
<u>/s/ Tom Long</u> Tom Long	Director	March 21, 2002
<u>/s/ Glen Possley</u> Glen Possley	Director	March 21, 2002
<u>/s/ J. David Litster</u> J. David Litster	Director	March 21, 2002
<u>/s/ William R. Spivey</u> William R. Spivey	Director	March 21, 2002
<u>/s/ Delbert Whitaker</u> Delbert Whitaker	Director	March 21, 2002

SCHEDULE II
VALUATION AND QUALIFYING ACCOUNTS
(in thousands)

Description	Balance at Beginning of Period	Charged to Expense	Write-offs	Balance at End of Period
Year Ended December 31, 1999				
Allowance for Doubtful Accounts	\$ 3,975	766	366	\$ 4,375
Year Ended December 31, 2000				
Allowance for Doubtful Accounts	\$ 4,375	1,335	318	\$ 5,392
Year Ended December 31, 2001				
Allowance for Doubtful Accounts	\$ 5,392	9,209	211	\$ 14,390

Exhibit 12.1

RATIO OF EARNINGS TO FIXED CHARGES
(in thousands)

	Year ended December 31,				
	2001	2000	1999	1998	1997
		(A) (C)	(A)	(A)	(A) (D)
Earnings as defined:					
Income before provision for income taxes	\$ 209,377	\$ 350,164	\$ 100,207	\$ 71,520	\$ (116,507)
Add:					
Interest expense	1,146	2,425	1,746	4,895	2,832
Interest portion of rental expense (B)	15,729	20,464	15,106	8,528	2,168
Total earnings	\$ 226,252	\$ 373,053	\$ 117,059	\$ 84,943	\$ (111,507)
Fixed charges as defined:					
Interest expense	\$ 1,146	\$ 2,425	\$ 1,746	\$ 4,895	\$ 2,832
Interest portion of rental expense (B)	15,729	20,464	15,106	8,528	2,168
Total fixed charges	\$ 16,875	\$ 22,889	\$ 16,852	\$ 13,423	\$ 5,000
Ratio of earnings to fixed charges	13.41	16.30	6.95	6.33	-

(A) All information prior to 2001 has been restated to give effect to the accounting for the merger with GaSonics Corporation in January 2001 under the pooling-of-interests method of accounting.

(B) Reflects the appropriate portion of rental expense representative of an interest factor.

(C) Before the cumulative effect of a change in accounting principle in conjunction with the adoption of SAB 101.

(D) In the year ended December 31, 1997, Novellus incurred a loss of \$92.7 million, net of an income tax benefit of \$23.8 million. Fixed charges for this period were \$5.0 million.

Exhibit 21.1

SUBSIDIARIES OF NOVELLUS

Novellus Systems International, Inc.
Novellus Systems Export, Inc.
GaSonics International Corporation
4000 N. First St.
San Jose, CA 95134 USA
T 408.943.9700
F 408.943.3422

Novellus Systems UK Ltd.
Unit 1EB, Bishops Weald House,
Albion Way,
Horsham, West Sussex
RH12 1AH, England
T 44.1403.265550
F 44.1403.266554

Novellus Systems BV
148 Dillenburgstraat 5B
5652 AM Eindhoven
The Netherlands
T 31.40.2918010
F 31.40.2573590

Novellus Systems SARL
Parc de la Julienne, Bat. D, 1er etage,
91830 Le Coudray Montceaux
France
T 33.1.64.93.7070
F 33.1.64.93.8787

Novellus Systems GmbH
Moritzburger Weg 67, Entrance E 1st Floor
01109 Dresden,
Germany
T 49.351.8838.3200
F 49.351.8838.3299

Novellus Systems Ireland Ltd.
Mill Street
Maynooth, County Kildare
Ireland
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F 353.1.601.6584

Novellus Systems Israel Ltd.
2 Tzoran St. (LC2-3S)
The New Industrial Zone
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T 972.7.666.2743
F 972.7.666.6362

Novellus Systems (India) Pvt. Ltd.
Le Parc Richmonde, 2nd Fl.
51 Richmond Road
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F 91.80.2296145

Novellus Systems Japan
KSP Bldg., R&D C-10F,
3-2-1 Sakado, Takatsu-ku, Kawasaki-shi
Kanagawa-ken 213-0012, Japan
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F 81.44.850.1778

Novellus Systems Korea Co. Ltd.
2F, DaeWoo Engineering Building
9-3 SuNae-Dong, BunDang-Ku,
SungNam City
Kyungki-Do, 463-020, Korea
T 82.31.738.1114
F 82.31.714.9921

Novellus Systems (H.K.) Ltd., Taiwan
9F, No. 6, Lane 99
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Hsinchu City, Taiwan 30801 R.O.C.
T 886.3.5730550
F 886.3.5730553

Novellus Systems Semiconductor
Equipment (Shanghai) Co. Ltd.
Unit 10 SOHO Building
439 Chun Xiao Road, Pudong New Area,
Shanghai 201204, P.R.China
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F 86.21.50802103

Novellus Systems International
Trading (Shanghai) Co. Ltd.
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F 86.21.50802103

Novellus Singapore Pte. Ltd.
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F 65.6.353.6833

Novellus Systems (Malaysia) Sdn. Bhd.
Suite B3-1 Ground Floor
Kulim Hi-Tech Park,
09000 Kulim
Kedah Darul Amam
T 604.403.3368
F 604.403.3378

CONSENT OF INDEPENDENT AUDITORS, ERNST & YOUNG LLP

We consent to the incorporation by reference in the Registration Statements (Form S-8 Nos. 333-11825, 33-88156, 33-51056, 33-36787, 33-25897, 33-62807, 333-35487, 333-65567, 333-80453, 333-54056, 333-54058, 333-70146) pertaining to the Amended and Restated 1984 Stock Option Plan, the Amended and Restated 1992 Employee Stock Purchase Plan, the Amended and Restated 1992 Stock Option Plan, the GaSonics International Corporation 1994 Stock Option / Stock Issuance Plan, the Gamma Precision Technology 1998 Stock Option Plan, the Novellus Systems, Inc. 401(k) Plan and the 2001 Stock Incentive Plan of our report dated January 20, 2002, with respect to the consolidated financial statements and schedule of Novellus Systems, Inc. included in the Annual Report (Form 10-K) for the year ended December 31, 2001.

/s/ ERNST & YOUNG LLP

San Jose, California
March 20, 2002

CONSENT OF INDEPENDENT PUBLIC ACCOUNTANTS, ARTHUR ANDERSEN LLP

As independent public accountants, we hereby consent to the incorporation in this Form 10-K of our report dated October 30, 2000 with respect to the consolidated financial statements of GaSonics International Corporation included in the Form 10-K filed on December 26, 2000, and to the incorporation by reference into the previously filed Registration Statements on Form S-8 (File Nos. 333-11825, 33-88156, 33-51056, 33-36787, 33-62807, 333-35487, 333-65567, 333-80453, 333-54056, 333-54058, 333-70146) of Novellus Systems, Inc.

/s/ ARTHUR ANDERSEN LLP

San Jose, California
March 21, 2002

REPORT OF INDEPENDENT PUBLIC ACCOUNTANTS, ARTHUR ANDERSEN LLP

To GaSonics International Corporation:

We have audited the accompanying consolidated balance sheets of GaSonics International Corporation (a Delaware Corporation) and subsidiaries as of September 30, 2000 and 1999, and the related consolidated statements of operations, shareholders' equity and cash flows for each of the three years in the period ended September 30, 2000. These financial statements and the schedule referred to below are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of GaSonics International Corporation and subsidiaries as of September 30, 2000 and 1999, and the results of their operations and cash flows for each of the three years in the period ended September 30, 2000 in conformity with accounting principles generally accepted in the United States.

Our audit was made for the purpose of forming an opinion on the financial statements taken as a whole. The schedule listed in the index under item 14(a)(2) is the responsibility of the Company's management and is presented for purposes of complying with the Securities and Exchange Commission rules and is not part of the basic financial statements. This schedule has been subjected to the auditing procedures applied in the audit of the basic financial statements and, in our opinion, fairly states in all material respects the financial data required to be set forth therein in relation to the basic financial statements taken as a whole.

ARTHUR ANDERSEN LLP

San Jose, California
October 30, 2000

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**Corporate Headquarters
Novellus Systems, Inc.**

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San Jose, California 95134
Tel: 408.943.9700
Fax: 408.570.2635
E-mail: info@novellus.com
www.novellus.com

Novellus Systems, Inc. 1998

Novellus, ALTUS, CORAL, Electrofill, GAMMA, HCM, INOVA, IRIDIA, SABRE, SEQUEL, SEQUEL Express, SPEED and VECTOR are trademarks or registered trademarks of Novellus Systems, Inc. in the U.S. and other countries.

Annual Meeting

The 2002 annual meeting of the shareholders will be held at 8:00 a.m. on May 17, 2002 at Novellus Corporate Headquarters, 4000 North First Street, San Jose, CA 95134.

Form 10-K

The Company's fiscal 2001 Annual Report on Form 10-K, filed with the Securities Exchange Commission, will be available after March 22, 2002. A copy of this report may be obtained by writing the Secretary of the Corporation.

Transfer Agent

ChaseMellon
Shareholders Service
San Francisco, California

Independent Auditors

Ernst & Young LLP
San Jose, California

General Counsel

Morrison & Foerster LLP
Palo Alto, California

Stock Listing

Novellus Systems' Common Stock trades on the Nasdaq stock market under the symbol NVLS.

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International Sales Offices

Novellus Systems, UK LTD

Unit 1EB, Bishops Weald House,
Albion Way, Horsham
West Sussex, RH12 1AH,
England
Tel: 44 1403 265550
Fax: 44 1403 265554

The Forum
Callender Business Park
Callender Road
Falkirk, Scotland FK1 1XR
Tel: 44 1324 639988
Fax: 44 1324 612069

Novellus Systems, SARL

1488 Corniche St. Ferreol
83510 Lorgues, France
Tel: 33 4 946 76952
Fax: 33 4 946 76990

Parc de Julienne
Bat. D 1er etage
91830 Le Coudray-Montceaux,
France
Tel: 33 1 64 93 7070
Fax: 33 1 64 93 8787

Novellus Systems, Ireland LTD

Mill Street
Maynooth, County Kildare, Ireland
Tel: 353 1 629 3270
Fax: 353 1 601 6584

Novellus Systems, BV

148 Dillenburgerstraat 5B
5652 AM Eindhoven
The Netherlands
Tel: 31 40 2918010
Fax: 31 40 2573590

Novellus Systems, GmbH

Moritzburger Weg 67
Entrance E, 1st Floor
01109, Dresden, Germany
Tel: 49 351 8838 3200
Fax: 49 351 8838 3299

Novellus Systems, India Pvt. LTD

Le Parc Richmond, 2nd Floor
51, Richmond Road
Bangalore 560025, India
Tel: 91 80 22 961 46
Fax: 91 80 22 961 45

Novellus Systems, Israel LTD

2 Tzorani St (LC2-3S)
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Fax: 972 7 666 6362

Novellus Systems, Japan, Inc.

KSP Building, R&D C-10F
3-2-1, Sakado
Takatsu-ku, Kawasaki-shi
Kanagawa-ken 213-0012, Japan
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Fax: 81 44 850 1778

Centland Bldg. 3F, 3-23-16

Nishi-Nakajima,
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Osaka 532-0011, Japan
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Fax: 81 6 6305 5657

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Fax: 82 31 714 9921

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Fax: 886 3 5730553

9F, No. 242, Chung-Shan Rd.
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Fax: 886 6 5833198

Novellus Systems, Beijing

5009/6010, China Textile Building
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Fax: 86 10 65285278

Novellus Systems Semiconductor Equipment Shanghai Co. LTD

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Fax: 86 21 50802103

Novellus Singapore Pte. LTD

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Fax: 65 353 6833

Novellus Systems, Malaysia Sdn. Bhd

Suite B3-1, Ground Floor
Kulim Hi-Tech Park
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Kedah Darul Amam
Malaysia
Tel: 604 403 3368
Fax: 604 403 3378

Domestic Sales Offices

Western Region

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Central Region

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Fax: (512) 326-1123

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Dallas, Texas 75251
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Fax: (972) 991-4406

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Fax: (602) 267-1902

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Bath, Pennsylvania 18014
Tel: (610) 837-1100
Fax: (610) 837-1300

Eastern Region

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Suite B
Hopewell Junction, New York 12533
Tel: (845) 896-5591
Fax: (845) 896-4813

54 Stiles Road
Suite 107
Salem, New Hampshire 03079
Tel: (603) 894-9700
Fax: (603) 898-4100

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Fax: (802) 878-0790

7724 Donegan Drive
Sudley North Business Center
Manassas, Virginia 20109
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Fax: (703) 369-7700

2400 Sand Lake Road
Suite 400
Orlando, FL 32809
Tel: (407) 856-6828
Fax: (407) 856-6882

Forward-Looking Statements

Except for the historical information presented, certain matters discussed in this document are forward-looking statements that are subject to certain risks and uncertainties that could cause actual results to differ materially from any future results, performance or achievements expressed or implied by such statements, including statements. Words such as "anticipates," "expects," "intends," "plans," "believes," "seeks," "estimates" and similar expressions identify forward-looking statements. Forward-looking statements in this document include, without limitation, statements regarding Novellus' foresight, vision and technology driving the next generation of change in the semiconductor industry, no other company playing a bigger role in developing the advanced technology of the Copper Age than Novellus; Novellus leading the way in low-k with the CORAL™ family of films, the strength of the Novellus management team and its readiness for the upturn in the economy; Gasronics' results from 2001 that will continue into the years to come; HDP business and its SPEED technology driving productivity and frontiers of deep trench isolation and gapfill for aluminum applications; work on innovative applications being demonstrated in Novellus' lab; the emergence of new applications post September 11th, including intelligent systems to examine baggage, personal identification systems and surveillance equipment; other technologies coming to market that will bring back the productivity lost with the threat to our society; people at Novellus playing a vital role in delivering the fundamental manufacturing technology that will allow the performance increases in semiconductors to continue; Novellus being poised for the future; Novellus' product portfolio being targeted at the right markets at the right time; Novellus' management team never being stronger; and Novellus continuing to focus on cost control and efficient execution to drive corporation back to profitability.

Factors that could cause actual results to differ materially from any future results, performance or achievements expressed or implied by such statements include risks and uncertainties such as a further decrease in the expenditures of semiconductor manufacturers, possibly due to a decrease in market demand for integrated circuits or products utilizing them or due to a continuing downturn in the industry and a

corresponding decrease in demand for Novellus' products; Novellus' failure to be successful or as successful as its competitors in selecting, developing, manufacturing, and marketing its new products, or enhancing its existing products or competing successfully against established competitors and new entrants in its market in the future; Novellus' failure to obtain significant design wins in the future or to complete the development or meet the technical specifications of any of its new systems or enhancements or to manufacture and ship these systems or enhancements in volume in a timely manner; delays or technical and manufacturing difficulties in future introductions or volume production of new systems or enhancements; the failure of Novellus' expectations regarding the direction of the semiconductor equipment industry, including the rapid adoption of copper interconnects by the semiconductor industry; that copper and low-k dielectrics represent the near and extended future of semiconductor manufacturing and the emergence of the surface preparation market; Novellus' failure to create anticipated synergies and increased product sales as a result of its acquisition of Gasronics; the loss of a significant customer or any reduction in orders from any significant customer; or adverse determination in any pending or potential litigation resulting in Novellus' loss of proprietary rights, requiring Novellus to seek licenses from third parties or preventing Novellus from manufacturing or selling its products. These risks, as well as other risks relevant to Novellus, are detailed from time to time in Novellus' public disclosure filings with the U.S. Securities and Exchange Commission, including Novellus' Reports on Form 10-K, Form 10-D and Form 8-K and Novellus' Annual Reports to its shareholders. Copies of Novellus' public disclosure filings with the SEC are available from Novellus Investor Relations Department.

All forward-looking statements included in this document are based on information available to Novellus on the date this document was first delivered to the shareholders of Novellus. Novellus assumes no obligation to update any of the forward-looking statements contained herein. Shareholders are cautioned not to place undue reliance on such statements, which speak only as of the date this document was first delivered.

Corporate Directory

Board of Directors

RICHARD S. HILL
Chairman of the Board,
Chief Executive Officer
Novellus Systems, Inc.

D. JAMES GUZY
President
Aibon Company

TOM LONG
Director of Programs
Planar Advance, Inc.

GLEN POSSLEY
Associate and Partner
of Internal Technology Ventures
and N-ABLE Group

ROBERT H. SMITH
Executive Vice President,
Administration
Novellus Systems, Inc.

WILLIAM R. SPIVEY
Chief Executive Officer
Luminent, Inc.

J. DAVID LITSTER, PH.D.
Vice President for Research
and Dean for Graduate
Education, MIT

DELBERT A. WHITAKER
Retired Senior Vice President
Texas Instruments, Inc.

Corporate Officers

RICHARD S. HILL
Chairman of the Board,
Chief Executive Officer

PETER R. HANLEY, PH.D.
President

ROBERT H. SMITH
Executive Vice President,
Administration

JOHN A. CHENAULT
Executive Vice President,
Worldwide Sales and
Service Operations

JEFFREY C. BENZING
Executive Vice President,
Deposition Products Group

ASURI *RAGS* RAGHAVAN
Executive Vice President,
Surface Integrity Group

DRS. WILBERT G.M. VAN DEN HOEK
Chief Technical Officer,
Executive Vice President,
Integration and Advanced
Development

KEVIN S. ROYAL
Vice President and
Chief Financial Officer

Interconnects are metal film layers that "wire" together the millions of transistors included in an integrated circuit.

Micron is a unit of length about 40-millionths of an inch. A human hair is approximately 100 microns wide.

Organosilicate Glass (OSG) is a carbon-doped low-k material with a k-value ~ 2.7 .

Passivation is the final layer in a semiconductor device that forms a hermetic seal over the circuitry. Plasma nitride and silicon dioxide are the primary materials used in this process.

Photolithography is the process by which a circuit pattern is transferred to a wafer.

Photoresist is a light-sensitive organic polymer that is used in the photolithography process to develop a pattern which masks some areas of the film to protect them during the etch process.

Photoresist Removal is the removal of all remaining photoresist left on the wafer after the implant or etch process.

Physical Vapor Deposition (PVD), also known as sputtering, is used in a subtractive aluminum manufacturing process to deposit the thin conductive films that wire the transistors together. PVD is also used in a copper damascene manufacturing process to deposit the copper barrier layer (which helps to contain the copper lines in the device) and the copper seed layer (which serves as a nucleation layer on which the copper conductive fill "grows").

Plasmas are ionized gases representing the fourth state of matter. In the deposition process plasmas are often generated using a radio-frequency (RF) energy field. When used for photoresist and residue removal the plasmas may be RF or microwave frequencies.

Residue is the post-etch polymer on the wafer left after a post-etch process such as STI etch, gate etch, metal etch, via etch, trench etch, and contact etch.

Residue Removal is the removal of all remaining residues left on the wafer after the implant or etch process.

Seed Layer is a conductive film laid down prior to copper electrofill to serve as the attractive pole during the electrofill process.

Semiconductor is a material with an electrical conductivity midway between a metal (conductor) and an insulator (non-conductor).

Silicon Dioxide (SiO_2) is a silicon/oxygen film most frequently used for dielectric applications.

Silicon Nitride is a silicon/nitrogen film frequently used as a final passivation layer.

Strip is also known as photoresist removal or ashing.

Wet Cleans are a variety of processes such as wet benches, spin/rinse/dryers, brush scrubbers, etc. used to clean after a variety of processes such as photoresist removal, etch, and CMP.

Glossary of Industry Terminology

Barrier is a thin layer of conducting film which prevents the primary conductor, either aluminum or copper, from migrating into the oxide or silicon. A secondary purpose of the barrier is to promote adhesion of the primary conductor.

Chemical Mechanical Polishing (CMP) is a process that uses a slurry and circular pad to make the surface of the wafer flat. In a very gross sense, to CMP a wafer is like sanding a dining room table to a fine finish with an orbital sander.

Chemical Vapor Deposition (CVD) processes are used to deposit dielectric films in an integrated circuit, as well as for depositing conductive metal layers, particularly those with line widths too small for effective deposition with PVD or other deposition technologies. CVD might be thought of as a high-tech spray painting process where paint vapor coats all the surfaces uniformly.

Clean is the removal of all undesirable materials from the surface of the wafer without causing damage to the exposed layers. This includes the removal of photoresist and post-etch polymers. Cleans are performed with both wet and dry cleaning technologies.

Copper Damascene/Dual Damascene is a process where vias and trenches are etched into insulating material. Copper is then filled into all the vias and trenches and sanded back so the conducting materials are only left in the vias and trenches.

Deposition is the process in which a film of either electrically insulating or electrically conductive material is deposited on the surface of a wafer.

Dielectrics are materials that are non-conductive and used as insulators in integrated circuits. Commonly used materials include silicon oxide and silicon nitride.

Dry Clean is most often a plasma process used to remove photoresist and residues from the wafer surface.

Electrofill, which is similar to the electroplating process used on planar surfaces, deposits high-quality copper films into the deep, narrow trenches that form the interconnects or copper wiring in advanced ICs.

Etch is a chemical reactive process for selectively removing material on a silicon wafer during semiconductor manufacturing.

Hollow Cathode Magnetron (HCM) is a patented source technology for sputtering material onto the surface of the wafer. The HCM develops a plasma, like you see in a fluorescent light. The excited plasma vaporizes the material of a target held in the HCM, and the material is directed at the wafer where it condenses and sticks.

High Density Plasma (HDP) is a gas that has been excited to a level that electrons are leaving the outer orbits of each atom of the gas. When the electron leaves the orbit, it emits light. This is the process that illuminates fluorescent light bulbs. Novellus' HDP (deposited on the SPEED platform), however, is much denser—there are more ions and electrons in a smaller volume excited with much higher voltages.

SABRE

VECTOR

PEP/IRIDIA

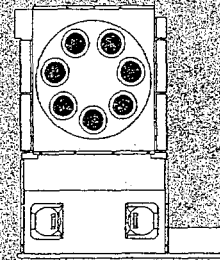
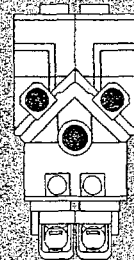
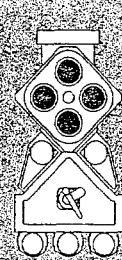
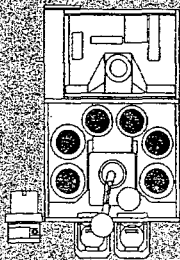
GAMMA

Copper Electrofill

PECVD

Surface Preparation

Surface Preparation

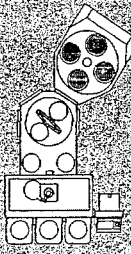
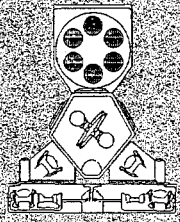
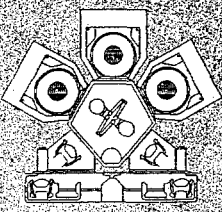
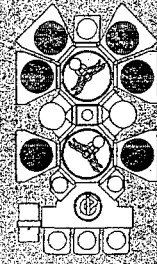


Developed in conjunction with IBM, the SABRE system is among the most reliable and technologically advanced copper electrofilling systems available today. SABRE employs a proprietary electrofilling cell that eliminates the backside water contamination of copper, and features a unique plating cell design that ensures reproducibility of the copper fill with outstanding film uniformity.

VECTOR is a new plasma-enhanced chemical vapor deposition system for dielectric films that delivers twice the capital productivity of any other PECVD system on the market, taking up approximately two-thirds the footprint of its nearest competitor. VECTOR is designed to deliver a fully integrated low-k dielectric structure at 0.10 micron and smaller design rules. VECTOR is optimized to deposit Novellus CORAL family of low-k films, which are extendible to 0.10 micron and beyond.

The PEP/IRIDIA is an advanced cleaning system designed for sub-0.18 micron applications and enabling technologies such as copper dual-damascene. The modular architecture of IRIDIA allows the system to be configurable for both front- and back-end-of-line clean applications, down to one micron device geometries. For low-k dielectric clean applications, the IRIDIA offers the highest capital and footprint productivity of any clean system on the market.

The GAMMA photoresist removal system uses an interlaced inductively coupled plasma source to strip photoresist, resulting in a more uniform distribution of residue with reduced use of consumables. The GAMMA architecture also features a multi-station chamber design with six strip stations, resulting in a water throughput of up to 175 wafers per hour. And thanks to a minimal number of critical subsystems, GAMMA provides superior reliability compared to other photoresist removal systems.

PRODUCT	ALTUS	SEQUEL Express	SPEED	INOVA
PROCESS	W-CVD	PECVD	HDP	Metal-PVD
FOOTPRINT				
DESCRIPTION	<p>ALTUS is an advanced tungsten CVD process chamber used to create tungsten plugs in extremely small geometries (0.15 micron) at aspect ratios of up to 1:4. The ALTUS system's multi-station sequential deposition architecture provides the highest throughput in the industry with excellent repeatability. The system's minimal overlap exclusion ring allows CMP-compatible deposition close to the wafer's edge, with no risk of backside particles.</p>	<p>SEQUEL Express is designed to deposit Novellus' CORAL family of low-k dielectric films, as well as all other advanced films required for devices with line widths narrower than 0.18 micron. With a throughput of up to 70 wafers per hour, SEQUEL Express delivers up to 70 percent higher capital productivity and up to 40 percent lower cost of ownership than competing CVD systems.</p>	<p>Targeted for advanced IMD deposition in 0.18 micron and below devices, SPEED was the semiconductor industry's first high-density plasma gap-fill solution capable of high-volume manufacturing applications. This single wafer processing system uses a patented hemispherical source design and a proprietary electrostatic chuck to provide excellent fill, reproducibility, low damage and high throughput.</p>	<p>INOVA is an advanced PVD system that deposits the tantalum barrier and copper seed layers required prior to copper electroplating. This multi-chamber single wafer processing system incorporates Novellus' unique Hollow Cathode Magnetron (HCM) technology, which offers better target utilization, extended maintenance intervals and lower cost of ownership compared to other techniques.</p>

We continue to win head-to-head competitions with our toughest competitors in this area.

Novellus PECVD business expanded the portfolio of films available for our industry-leading VECTOR platform. With a cost performance that's superior to competitive offerings, 300mm users have adopted VECTOR for more and more applications throughout the downturn. Our CORAL family of films is one example of the advantages that are unmatched by other low-k products.

And finally, our ALTUS system has been the standard for tungsten plugs, which form the vias in aluminum interconnects. In recent years, tungsten deposition technology has existed in the shadows of our copper program, but with the innovation of PNE (pulsed nucleation layer), the ALTUS system offers breakthroughs for local interconnects and premetal dielectric applications. Work on advanced technologies continues with the ALTUS product, and there are more innovative applications being demonstrated in the lab.

Throughout this downturn we have continued to believe that semiconductors will retain the increasingly important role they play in our daily lives. A few short years ago that may have meant a cellular phone or a faster Internet connection or the perfect digital video system. Those opportunities still exist, but post-September 11th, new applications may emerge. Intelligent systems to examine baggage, personal identification systems, and surveillance equipment to improve personal safety are all examples of products that are enabled by

semiconductors. Other technology will come to market that will bring back the productivity we lost with the new threat to our society. Make no mistake, we have miles to go before we sleep* within the semiconductor industry. But the people of Novellus will play a vital role in delivering the fundamental manufacturing technology that will allow the performance increases in semiconductors to continue.

Novellus is poised for the future. Our product portfolio is targeted at the right markets at the right time. Our management team has never been stronger, and we continue to put a high priority on employee development to ensure management continuity and seamless transitions. Our core values allowed us to weather the down turn and become a stronger company. 2002 is going to require us to continue to focus on cost control and execute efficiently to drive the corporation back to profitability.

I would like to thank our shareholders, customers and employees for their dedication to the company. Novellus is committed to delivering superior long-term results to all of you.



Richard S. Hill
Chairman of the Board and Chief Executive Officer

To Our Stockholders, Customers, Partners and Employees

In fiscal year 2001, Novellus reported revenues of \$1.339 billion, a 1.5 percent increase compared to revenues of \$1.319 billion in fiscal 2000. Net income for 2001 was \$144.5 million, or \$0.97 per fully diluted share, compared to a net income of \$149.4 million, or \$1.04 per fully diluted share for the previous year. The company ended the year with a strong balance sheet. Our cash, short-term investments, and restricted investments were at a record level of \$1.883 billion, up from the previous record of \$1.920 billion at the close of fiscal year 2000. And finally, our battle-hardened management team, which successfully faced the challenges of 2000, is stronger and ready for the upturn.

As the bookings, backlog and shipments plummeted from record levels in late 2000, the employees of Novellus pulled together as a team to deliver results through reductions in pay, elimination of bonuses, massive cutbacks in non-labor expenses and redeployment of resources. Novellus preserved our workforce, retained our R&D/engineering programs and delivered profit in the worst of times. Despite these cuts, we had great successes in fiscal year 2001. At the top of the list was the acquisition of Gasolux, a company rich in technology but needing working capital to expand distribution in Asia and accelerate transition of their products to 300mm. Novellus was just what Gasolux needed. We increased the R&D/engineering investment level to complete the Gasolux 300mm products and gave the new product portfolio to a world class sales service and process organization. By the end of the year, we saw results that will continue into the years to come.

This story can be told throughout Novellus.

Investment in the future has remained rock solid despite the severity of the downturn. And the engineers and scientists of Novellus are delivering

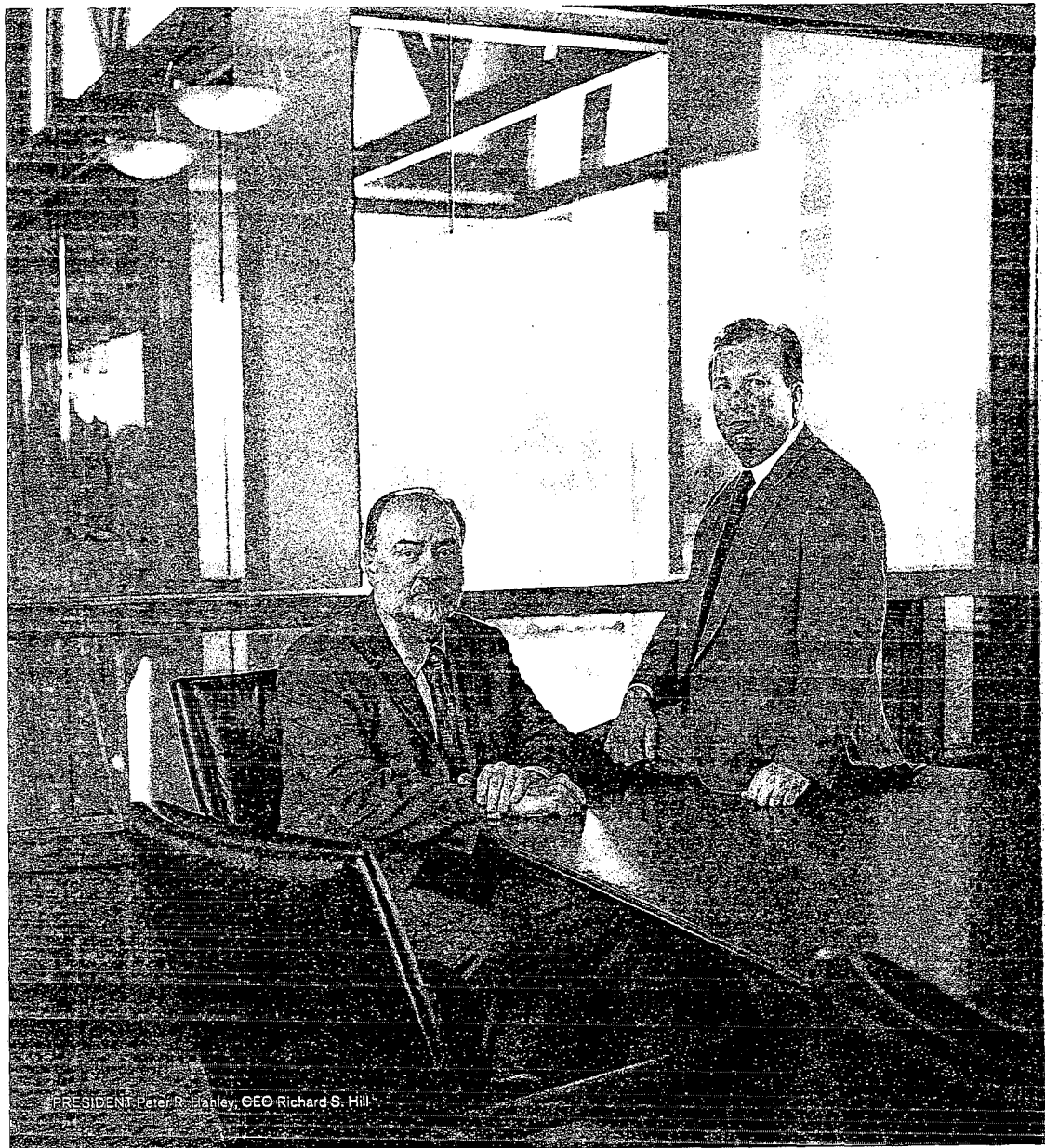
Our PVD group won big in 2001 as they demonstrated the extendibility of our patented Hollow Cathode Magnetron (HCM™) technology to 0.10 micron feature sizes with unmatched low resistance via performance. The PVD business was rewarded with sizeable orders in the fourth quarter, which were pretty hard to come by after September 11.

Our Electroplating business racked up another record year despite the downturn. As many of our customers used the downturn in the semiconductor industry to accelerate their transition into copper interconnects, our people responded by demonstrating that knowledge, skills and ability are the keys to success in high technology. Our engineers and scientists have demonstrated void-free copper fill at 0.07 microns—it's a feature size that won't be in production for a while, but we are ready and recognized by our customers as having the capability. It's the caliber of our products, along with our fundamental understanding of the defects associated with copper production, that make Novellus an industry standard for copper interconnects.

Our HDP business with its SPEED technology continues to drive productivity and the frontiers of deep trench isolation and gapfill for aluminum applications. In addition, SPEED has pioneered high density nitride applications used to create blocking films for copper damascene manufacturing.

BEST AVAILABLE COPY

The first year of the 21st Century produced challenges for our company, our industry and our world. During the 1990's we all prospered from the peace dividend, the Internet explosion and a recognition of the importance of semiconductors to productivity and our quality of life. By the end of 2001 we had survived a Dot Com implosion, a foreign attack on the continental United States and a war tax we have yet to fully absorb. Yet our country, our industry and our company are emerging with more vitality than ever before.



PRESIDENT Peter R. Hanley, CEO Richard S. Hill

Quarterly Financial Data (In thousands, except per share data)

	Year ended December 31, 2001			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Net sales	\$ 458,705	\$ 376,899	\$ 303,687	\$ 200,031
Gross profit	\$ 254,985	\$ 199,624	\$ 140,138	\$ 96,604
Net income (loss)	\$ 82,102	\$ 59,221	\$ (14,019)	\$ 17,166
Diluted earnings (loss) per share	\$ 0.55	\$ 0.40	\$ (0.10)	\$ 0.12
Shares used in diluted per share calculations	148,108	149,643	143,218	148,459
	Year ended December 31, 2000			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Net sales	\$ 219,958	\$ 368,963	\$ 292,889	\$ 442,676
Gross profit	\$ 117,165	\$ 201,981	\$ 158,581	\$ 253,166
Net income before cumulative effect of a change in accounting principle	\$ 23,877	\$ 78,211	\$ 43,284	\$ 93,856
Cumulative effect of change in accounting principle, net of tax	\$ (89,788)			
Net income (loss)	\$ (65,911)	\$ 78,211	\$ 43,284	\$ 93,856
Diluted earnings per share before cumulative effect of a change in accounting principle	\$ 0.17	\$ 0.54	\$ 0.30	\$ 0.64
Cumulative effect of change in accounting principle	\$ (0.65)			
Diluted earnings (loss) per share	\$ (0.48)	\$ 0.54	\$ 0.30	\$ 0.64
Shares used in diluted per share calculations	137,076	144,249	147,121	146,023

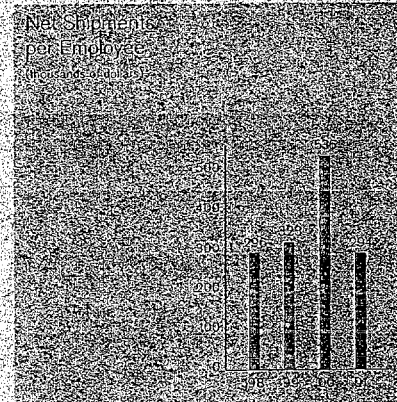
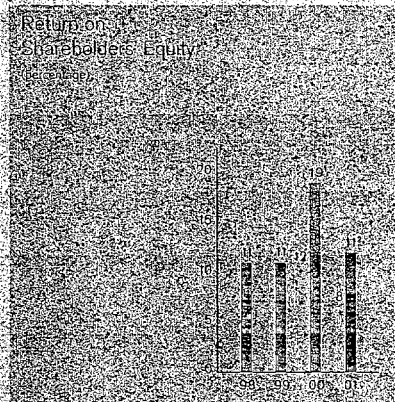
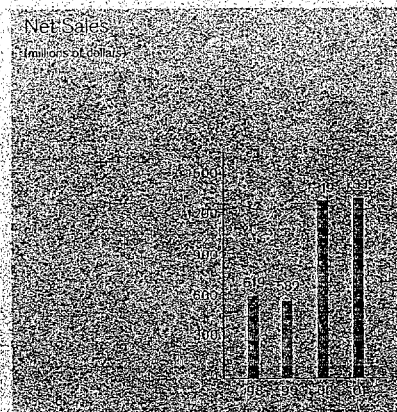
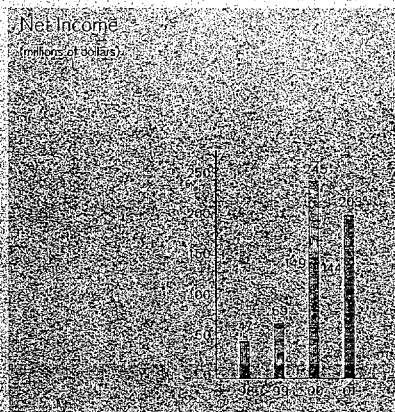
1 In January 2001, Novellus recorded a charge of \$13.2 million in merger costs associated with the acquisition of Gasconics International Corporation.

2 In September 2001, Novellus recorded one-time charges totaling \$71.3 million or \$0.34 per diluted share, associated with restructuring activities, the other than temporary decline in value of an investment, and the write-off of a bad debt.

3 In 2000, Novellus adopted SAB 101 "Revenue Recognition in Financial Statements". In accordance with the guidance provided in SAB 101, results for the first quarter of 2000 reflect a non-cash charge of \$89.8 million (after reduction for income taxes of \$48.6 million), or \$0.65 per diluted share, to reflect the cumulative effect of the accounting change as of the beginning of the fiscal year.

4 Includes a non-operating after tax charge of \$6.0 million for in-process research and development.

Financial Highlights (in thousands, except percentages and per share data)



- The Company's reported net income of \$149.4 million or \$1.04 per diluted share for the year ended December 31, 2000 includes an \$89.8 million or \$0.62 per share non-cash charge in accordance with guidance provided in Staff Accounting Bulletin No. 101 (SAB 101), "Revenue Recognition in Financial Statements," to reflect the cumulative effect of an accounting change as of the beginning of the fiscal year. Excluding the \$89.8 million non-cash charge and a \$6.0 million one-time charge related to the write-off of in-process research and development, net income was \$245.2 million or \$1.70 per diluted share.
- The Company's reported net income of \$144.5 million or \$0.97 per share for the year ended December 31, 2001 includes pre-tax one-time charges totaling \$84.5 million consisting of \$13.2 million for merger-related costs, \$47.9 million of restructuring and asset impairment charges, \$7.7 million for the write-off of a bad debt, \$7.1 million of inventory write-downs associated with the restructuring, and \$8.6 million related to the write-down of an investment. Excluding the \$84.5 million in one-time charges, net income was \$202.7 million, or \$1.36 per diluted share.
- The Company adopted SAB 101 in 2001 with an effective date of January 2000. Data for 1999 has been prepared on a pro forma basis in accordance with SAB 101. Data is not available to provide pro forma information for 1998.

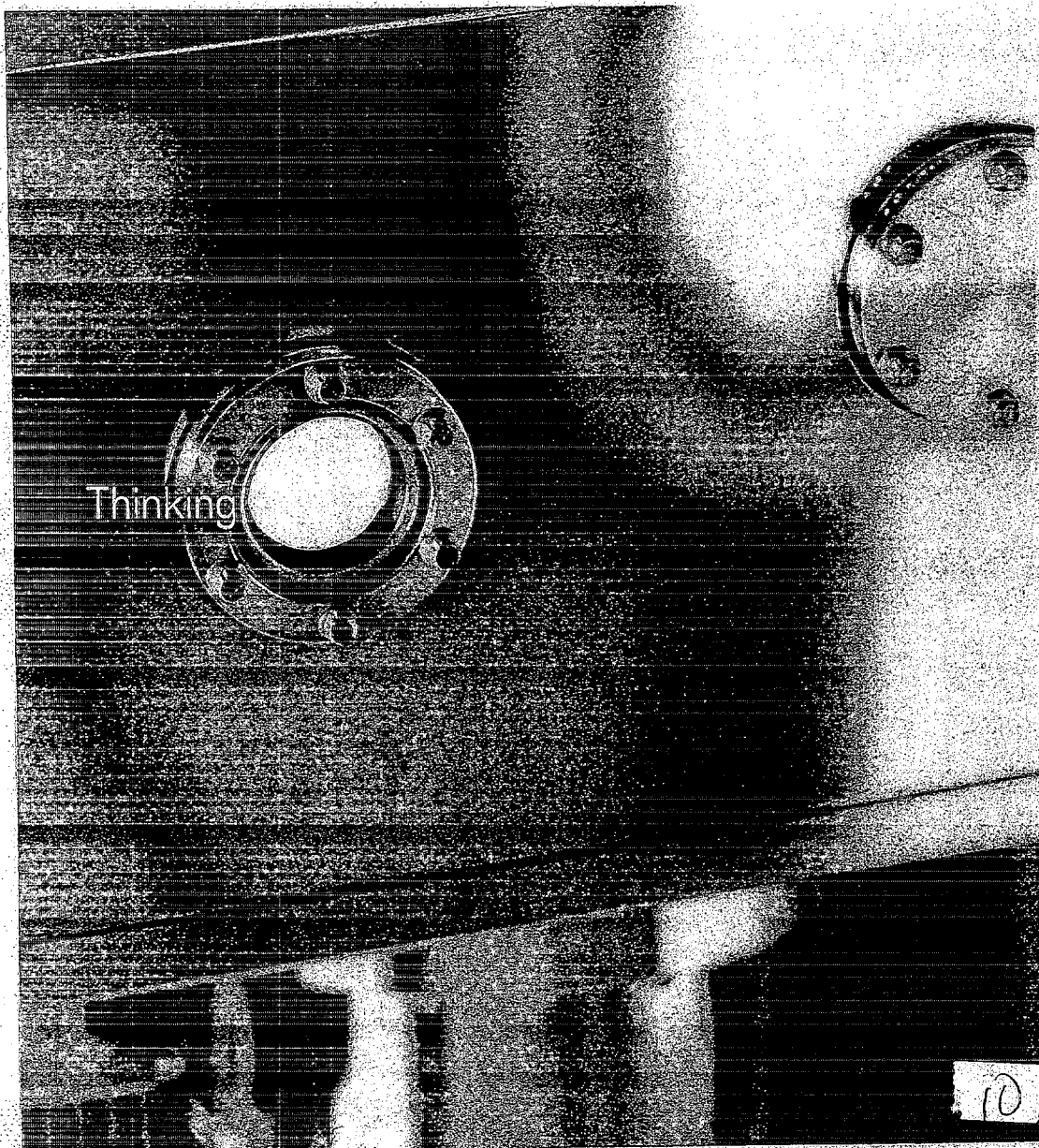
Through

Prudent fiscal management enabled Novellus to weather the industry's worst downturn ever in 2001 without compromising our vision and strategy. As market conditions improve, we believe we'll be in a stronger position than at any time in our history. Just wait and see.

The GAMMA and IRIDIA products are used to clean the surface of the bonding pad prior to the chip test and packaging processes

PEP IRIDIA

PAD STRIP AND CLEAN



Thinking

10

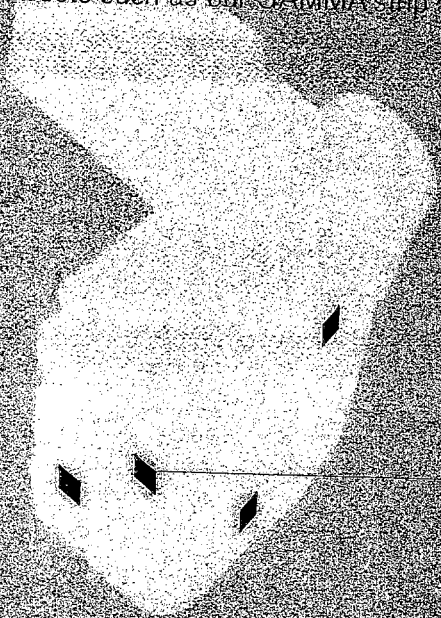
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VECTOR

PASSIVATION

Surface Smarts

Surface preparation is key in the deep sub-micron world of copper interconnects and low-k dielectrics, where improper cleaning can lead to lower yields and reduced device performance. Novellus' new Surface Integrity Group brings high-tech innovation to a formerly low-tech process step with products such as our GAMMA-clip and clean system.

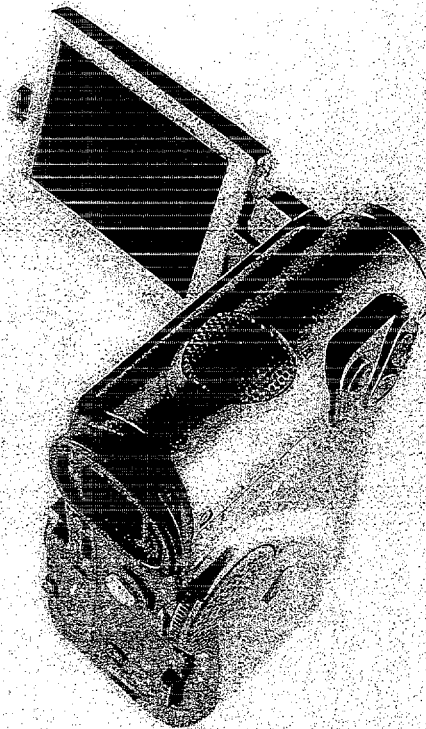


Novellus' SABRE™ cleans with etching and passivation, and the GAMMA-clip cleans with etching and passivation.

SABRE™

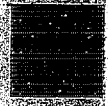
SURFACE INTEGRITY GROUP

9



8

With the 100% absorption of the copper atoms used as
a catalyst, the copper atoms are further refined.



COMPLETED

Low-k Leadership

Ever-shrinking chip geometries continue to fulfill the vision of new and improved product applications. But below 0.3 micron line widths, the wires on a chip are so close together that crosstalk can occur—a problem that is being addressed through the use of insulators known as low-k dielectrics. Novellus is helping to lead the way in low-k with our CORAL[®] family of films, which provide a superior hardness and lower cost of ownership when compared to other low-k approaches.

The low-k film supports a thinner material that keeps the copper wiring from taking too much of the device and causing electrical shorts.

NOVA



COPPER BARRIER

7

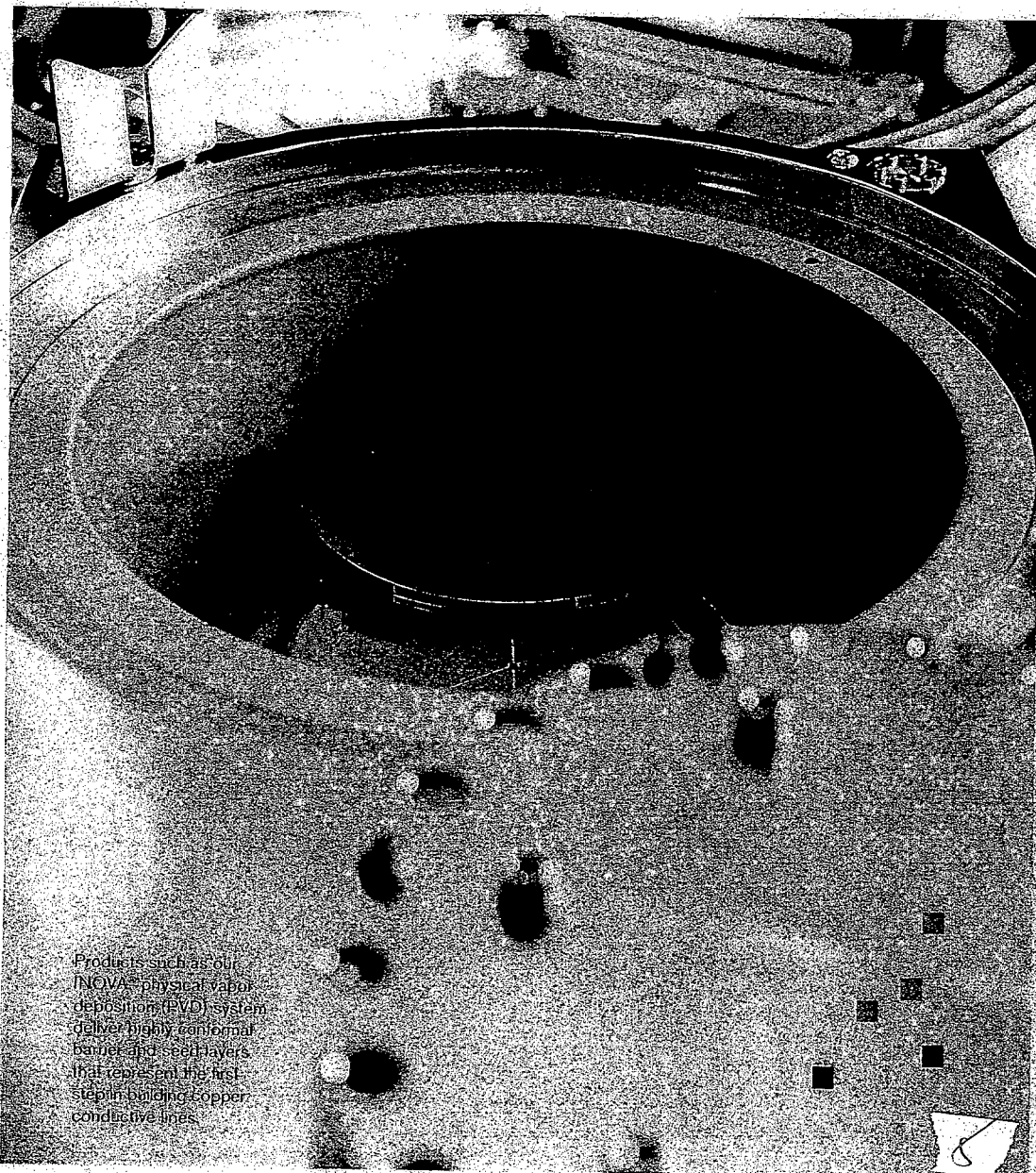
Customer Commitment

Our vision at Novellus is all about anticipating and designing products that work right the first time every time. Because we believe we have little to gain from our customers' pain, we think of service as a commitment, and not as a secondary source of revenue. This point of view has led to a reputation for providing reliable production-ready systems that reduce cost of ownership, and solving the problems that our customers face.

Novellus designs, produces, and sells products that are designed to work between each other and with the customer's system.

VECTOR

INTERFACED ELECTRIC



Products such as our
INOVA[®] physical vapor
deposition (PVD) system
deliver highly conformal
barrier and seed layers
that represent the first
step in building copper
conductive lines.

INOVA[®] PVD System: the original plug that connects
highly conformal barrier and seed layers



www.inova.com

Metal Matters

In the advanced world of IC interconnects, copper is rapidly becoming king. That's because the resistance of copper is lower than that of aluminum. No company is playing a bigger role in developing the advanced technology of the Copper Age than Novellus.

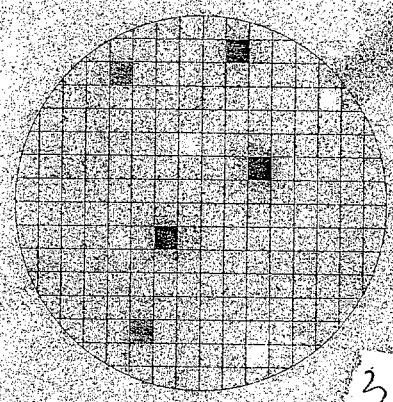
TRANSPEED is the speed of the electrical insulation layer that
allows the high speeds of the 100% metal wiring device

SPEED

SHALCUTATE INSULATION
THE NEW METAL ELECTRIC

4

Novellus systems deposit layers of material on silicon wafers. Collectively, these layers are used to create the wires and insulators that connect the transistors on a semiconductor chip. The icons on the edge of the following pages each represent a single step in the process of building these wires—otherwise known as interconnects—in a copper dual damascene device.



3

PROCESS APPLICATION

PROCESS SYSTEM

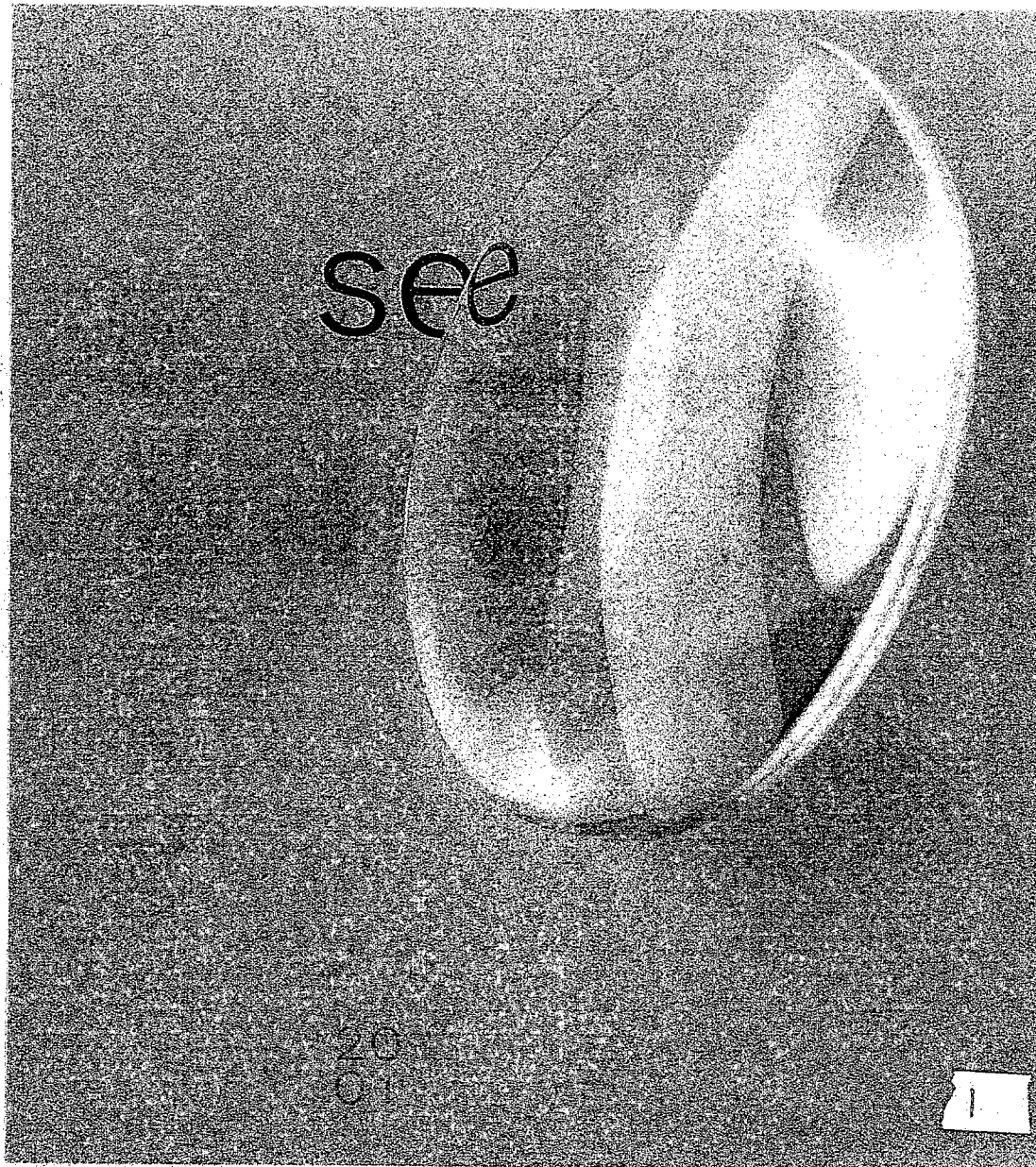
SUMMARY


SURFACE PREPARATION

GAMMA™

Novellus' GAMMA and (R)IDA™ products prepare the surface of the wafer before each deposition step.

At Novellus, we see the world of integrated circuits as an opportunity to innovate, to make a difference by doing things differently. The foresight and vision underlying our advanced technology is driving the next generation of change in the semiconductor industry.





Novellus Systems, Inc. manufactures, markets, and services semiconductor processing equipment. The company is a leader in the manufacture of chemical vapor deposition (CVD), physical vapor deposition (PVD), copper Electrofill systems and surface preparation/cleaning systems used in the fabrication of integrated circuits. Novellus' advanced technology products are designed for the high-volume production of leading-edge semiconductor devices at the lowest possible cost.

Founded in 1984 and headquartered in San Jose, California, Novellus maintains subsidiaries throughout the United States, Europe and the Pacific Rim. Novellus is an S&P 500 company and a component of the Nasdaq-100 Index®. The company's stock is traded on the Nasdaq stock exchange under the symbol NVLS.



www.novellus.com



Novellus Systems

